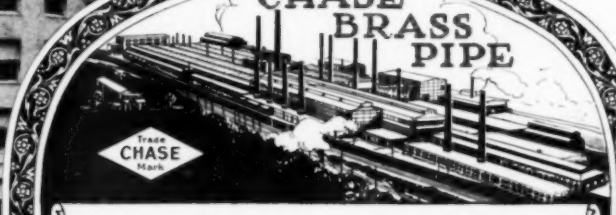
The ARCHITECTVRAL RECORD

SEPTEMBER 1923

LANDSCAPE DESIGN D
U. OF M.

Turk's Head Building, Providence, R. I. John Mead Howells, architect. Equipped with CHASE Brass Pipe.

CHASE BRASS PIPE



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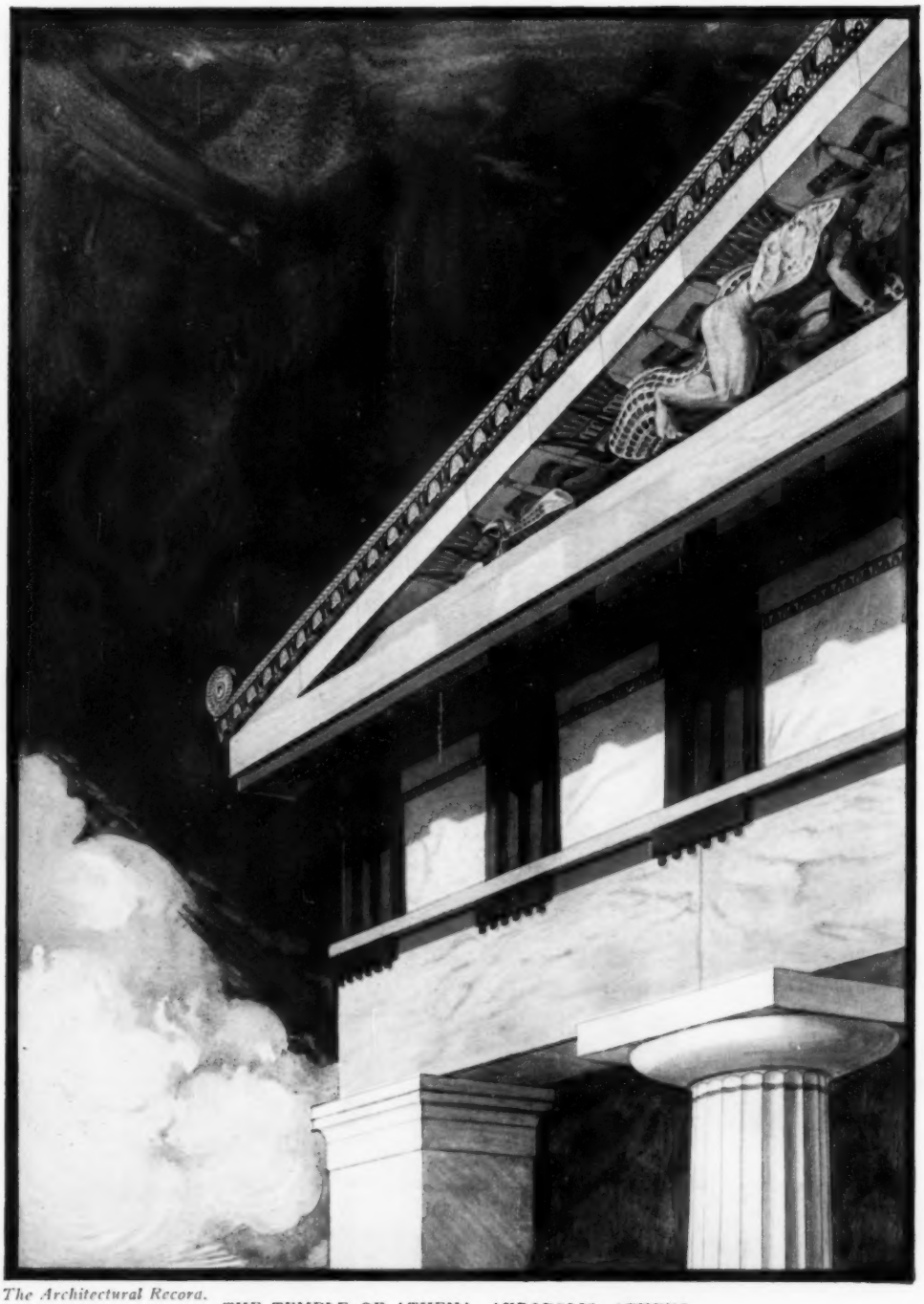


The Architectural Record.

THE TEMPLE OF ATHENA, AKROPOLIS, ATHENS

Restoration by Wiegand

The ARCHITECTVRAL RECORD

VOLUME 54 SEPTEMBER, 1923 NUMBER 3

The GARDENS OF THE PALACE OF PEACE AT THE HAGUE

By Thomas H. Mawson

Lecturer on Landscape Design, Liverpool University

ALL LOVERS of peace and concord will remember the high hopes which were raised in the minds of those who desire world-wide peace, when the late Andrew Carnegie made the announcement of his great gift for the purpose of founding an Arbitration Court for the settlement of international disputes. To many it seemed the dawn of the millennium. In this connection the following sentences from the deed setting forth the donor's instructions for founding a Trust under the laws of the Netherlands, for the encouragement of international peace, may be of interest.

"Believing that the establishment of a permanent Court of Arbitration by the Treaty of 25th July, 1899, is the most important step forward of a world-wide humanitarian character which has ever been taken by the joint powers, as it must ultimately banish war; and further being of opinion that the cause of the Peace Conference will greatly benefit by the creation of a Court House and Library for the Permanent Court of Arbitration, I, Andrew Carnegie, of the City of New York, am willing to furnish a sum of one and a half million of dollars for the said purpose. . . ."

The site secured for this purpose is about sixteen acres, convenient in location and admirable in every way; it is an historic spot, the pleasance of royalty, beautifully furnished with fine timber, mostly beech and elm, which give to the site the charm of a Hobbema landscape. and a seclusion which is peculiarily appropriate to and expressive of Peace.

The international competition for the design of the Palace, which followed the acquisition of this site, was the event of the year, attracting the ablest men from every country. In the final result M. Cordonnier was awarded the first premium, being appointed, in collaboration with Mr. Van der Steur, a leading Dutch architect, superintending architect for the erection of the Palace.

Shortly after the acceptance of the designs for the Palace, it occurred to the trustees that they ought to have a scheme for the layout of the gardens. In furtherance of this, they instituted a limited competition, in which the writer was awarded the first place, and afterward appointed landscape architect to carry out the work. M. de Wilde, a well-known landscape architect from Brussels, was second favorite; his scheme was

so excellent that the assessors must have experienced difficulty in reaching their decision. As the two schemes are interesting as showing the English and Belgian point of view, I have pleasure in giving, as the first illustration to this article, the landscape plan submitted by M. de Wilde.

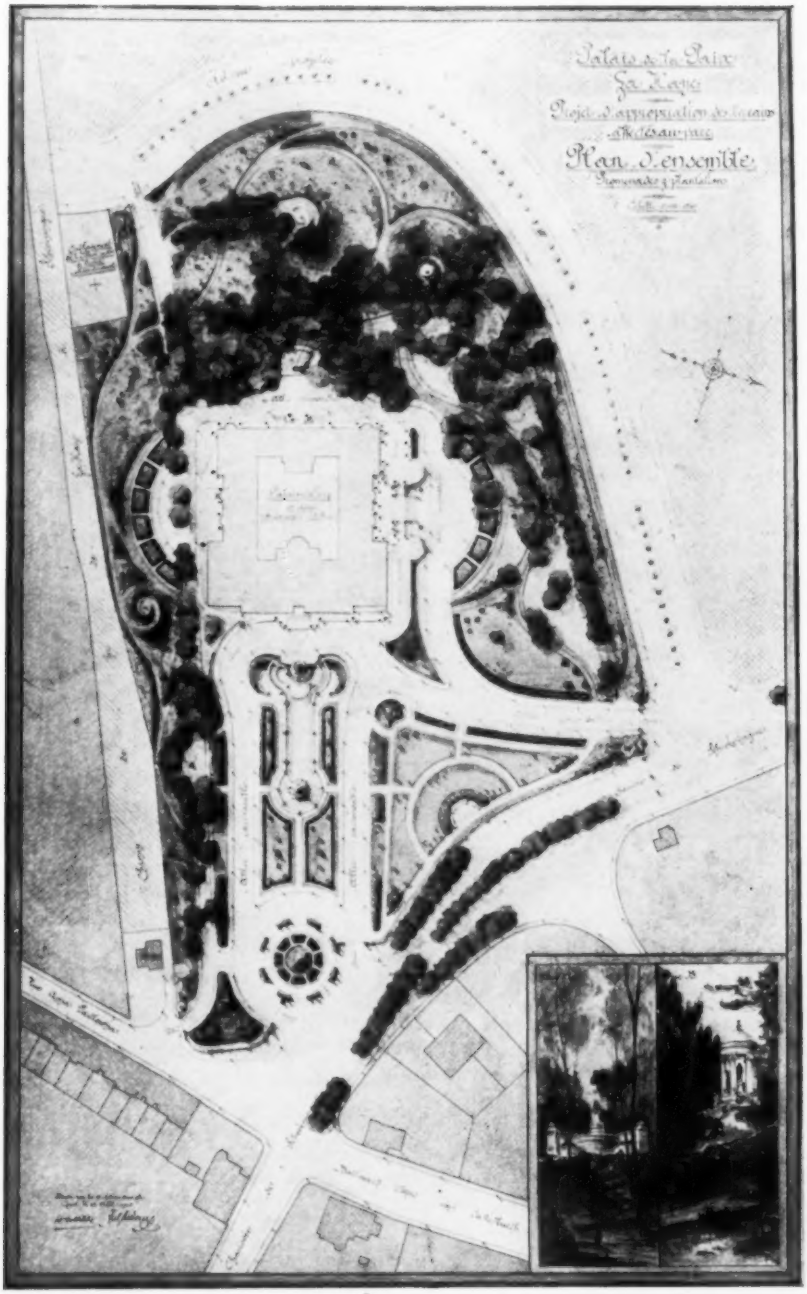
The problems to be dealt with were in many ways unusual, and such as seldom come within the practice of an English landscape architect. In the first place, although not primarily intended to serve the purpose of a public park, ample space had to be provided for the pleasure of a large number of diplomats and visitors on special occasions, and in particular to make very accessible the approaches to the main entrances and provide for the easy gyration of a large number of automobiles. In the second place, the character of the edifice seemed to call for the emphasis of a quiet, restful dignity in the gardens, and for the preservation so far as possible of all existing shade trees within the grounds. There was a stream passing through the northern part of the grounds, the levels of which had to be maintained, whatever water treatment was decided upon for the surrounding layout. The chief difficulty was in the nature of the soil, which was almost pure sand, with a depth of only some thirty inches or so to the water level.

In our original scheme the gardens were designed to fit the architect's accepted design for the Palace, but in the interval which elapsed between the acceptance of this original competitive design and my own scheme for the gardens as executed, such alterations had been evolved in the building plan as called for drastic modifications. This was particularly so in the case of the carriage court and entrance and the terracing on the north side.

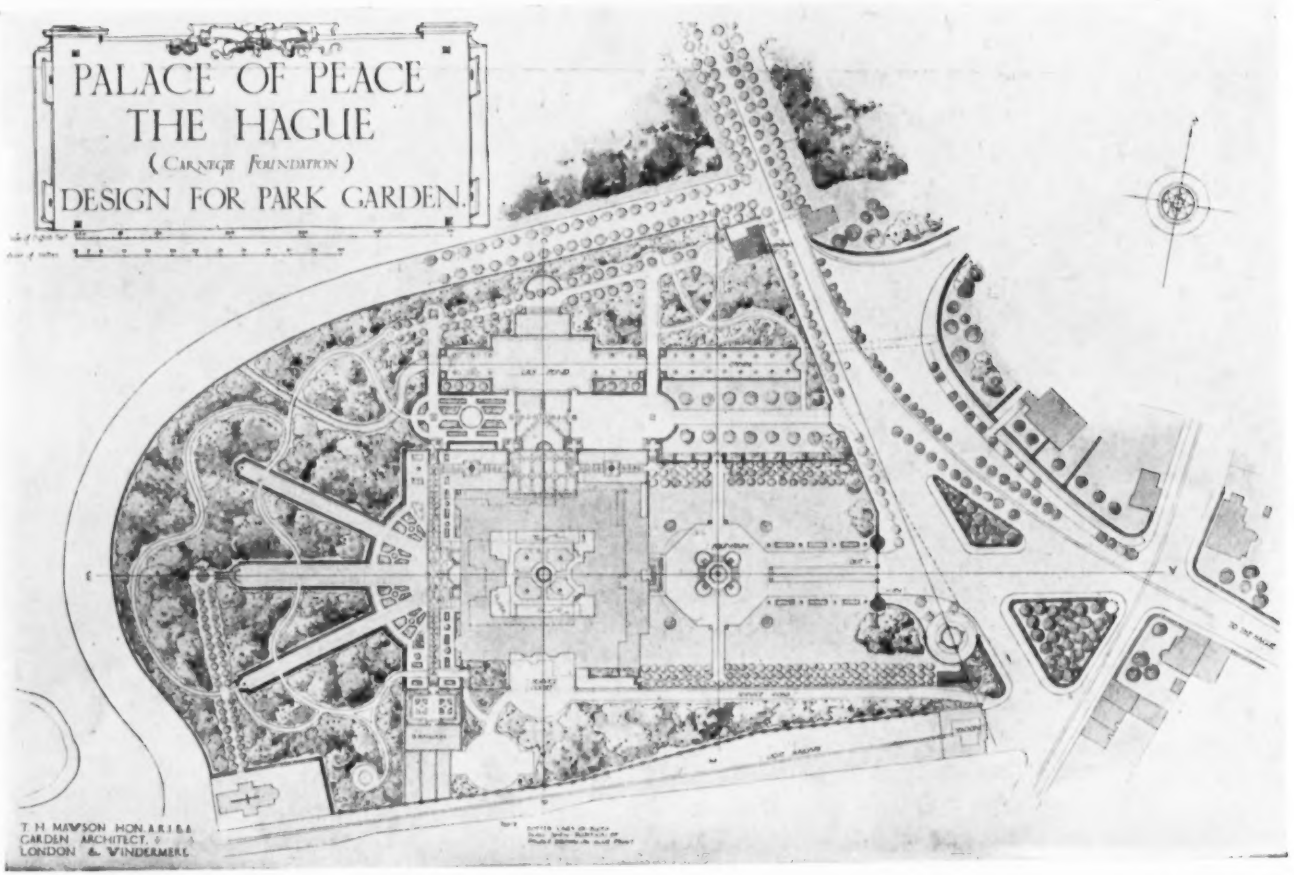
Apart from the modifications necessitated by the replanning of the Palace, other factors operated which had considerable bearing upon the work executed. Originally I proposed a modification of the existing boulevard along the eastern boundary of the property to focus the axis of Scheveningen avenue upon the Dutch tower as its focal point. The city authorities were not sympathetic towards external improvements which might interfere, as they thought, with any projected town planning scheme for the Hague. The most important factor, however, operating in the modifications of our scheme was the presentation to the trustees of the piers, wing walls, and wrought iron gates by the Kaiser. This foreshortened the carriage court with its flow-and-return drive and suggested the advisability of omitting the fountain and the obelisk surmounted by the statue of Peace, and led to the adoption of a ramped carriage way to the main Palace entrance. In the execution of this eastern part of the scheme we decided to adopt a freer treatment in the plantations, omitting the pleached lime avenue and securing color interest in flower borders.

By far the most interesting part of the scheme is the north front where the space is ample and expansive. Moreover, the property is secluded on this side by the embankment and existing timber, which completely screen the gardens. There is also a welcome break in the levels on this side; first the upper terrace, then the level of the canal, and finally the tree covered embankment already referred to. The illustrations show the value of the garden setting, enhancing the Palace building and the excellent proportions which the available width of ground permitted; the central portion of the canal and the northeast corner of the Palace. Unfortunately the photographs were not taken in the time of roses, when the two panel gardens on either side of the canal, which are planted with several thousand tea roses, arranged in a graduated color scheme, were in bloom.

With the two terminal bridges which mark the intake and outlet of the canal, is combined a pergola treatment, clad with climbers of interesting foliage. Owing to the water level being so near the surface, the construction of the ornamental canal was a matter of some difficulty but fortunately these are problems which the Dutch contractor (and the nation generally we may say) are constantly called upon to tackle. The whole canal



Plan of Gardens
PALACE OF PEACE, THE HAGUE, HOLLAND
H. de Wilde, Landscape Architect



Plan of Gardens
PALACE OF PEACE, THE HAGUE, HOLLAND
Thomas H. Mawson, Landscape Architect

Perspective of Gardens

PALACE OF PEACE, THE HAGUE, HOLLAND

Thomas H. Mawson, Landscape Architect

had to be in reinforced concrete, and is so excellently executed that there has never been a leak. We have only one regret—the glaring white nondescript urns which formed no part of our scheme.

The gardens at the west end of the Palace were suggested by the contours which here are more varied than elsewhere, and the fringe of forest and undulating glades. These suggested a simple and effective treatment, with as little interference as possible with the natural contours and umbrageous effect of shade trees. The space immediately between the Palace and the radiating panel gardens, is laid out as a secondary carriage court, partly for departing automobiles on state occasions. The panel gardens are planted with what we call American plants, such as Gaultheria, Erica, Andromeda, Azalea, Kalmia and Rhododendron of the early flowering varieties. The central glade leads up to an old mount which is chosen as the site for a Temple of Peace, not yet erected, the glen leading thereto being hedged with tree box.

Along the southern boundary there was little opportunity for any landscape effect, partly because the central part of the southern wing was apportioned to the service department, including the heating apparatus, and also because the boundary follows the line of a light railway with its unsightly station building and sheds. Therefore, after laying down the service road, my energies were directed to the preservation of all existing timber trees, supplemented by the planting of such undergrowth and shrubs and trees, as would quickly screen off the unsightly buildings and the property beyond. The results are exceeding our best expectations. Needless to say, in order to maintain the foliage and floral effects, many hundreds of cubic yards of fibrous peat and loam had at considerable expense to be incorporated with the soil to enrich it. This expense has been fully justified.

It only remains to be said that my son, E. Prentice Mawson, was actively engaged with me in the preparation of the designs and in the execution of the work.

Gardens

PALACE OF PEACE, THE HAGUE, HOLLAND

Thomas H. Mawson, Landscape Architect

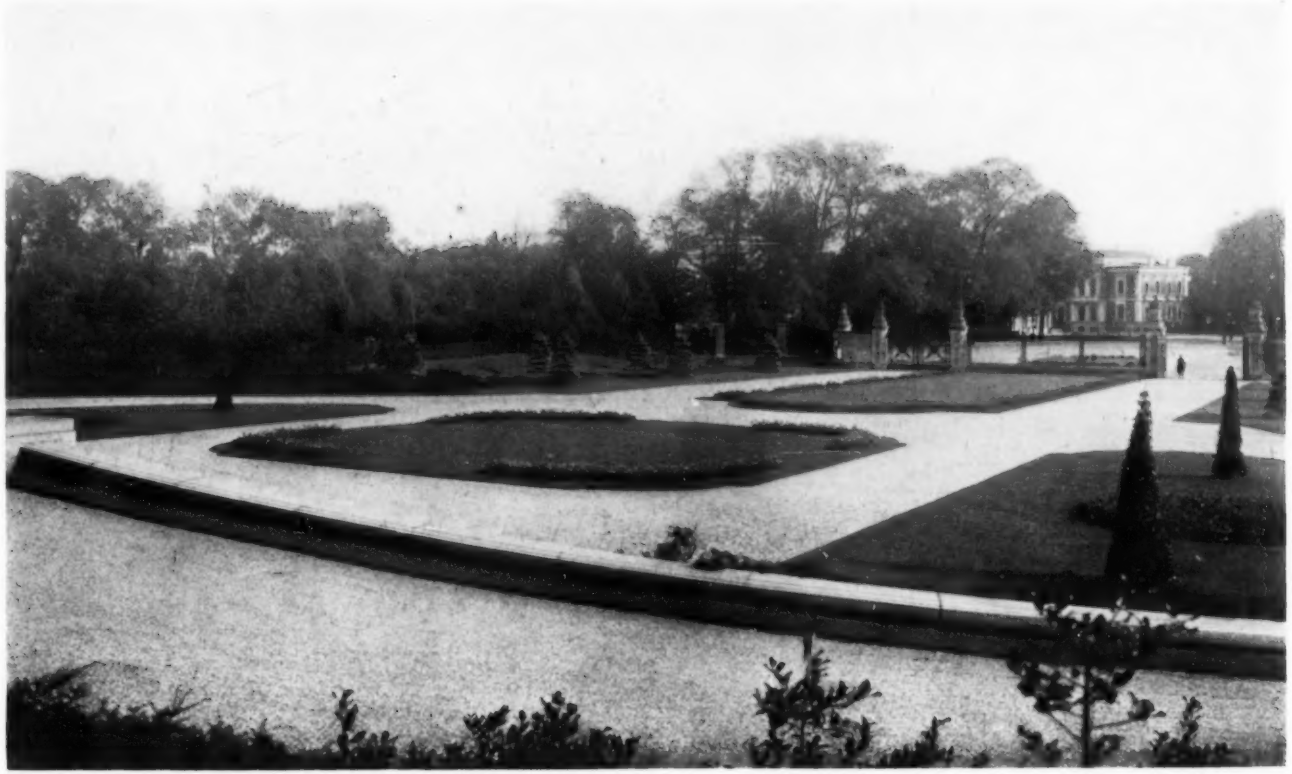
Ornamental Canal

PALACE OF PEACE, THE HAGUE, HOLLAND

Thomas H. Mawson, Landscape Architect

Ornamental Canal
PALACE OF PEACE, THE HAGUE, HOLLAND
Thomas H. Mawson, Landscape Architect

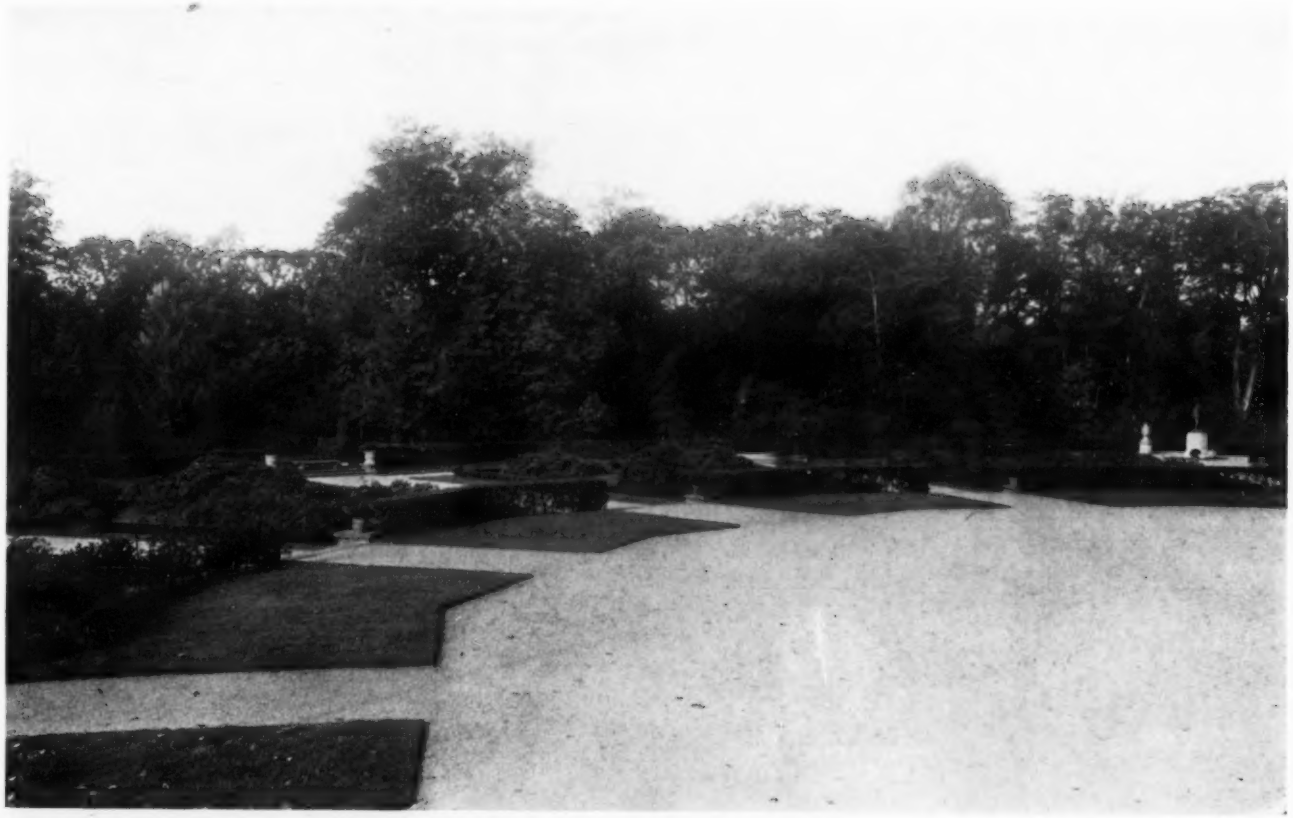
Gardens and Canal
PALACE OF PEACE, THE HAGUE, HOLLAND
Thomas H. Mawson, Landscape Architect



Gardens

PALACE OF PEACE, THE HAGUE, HOLLAND

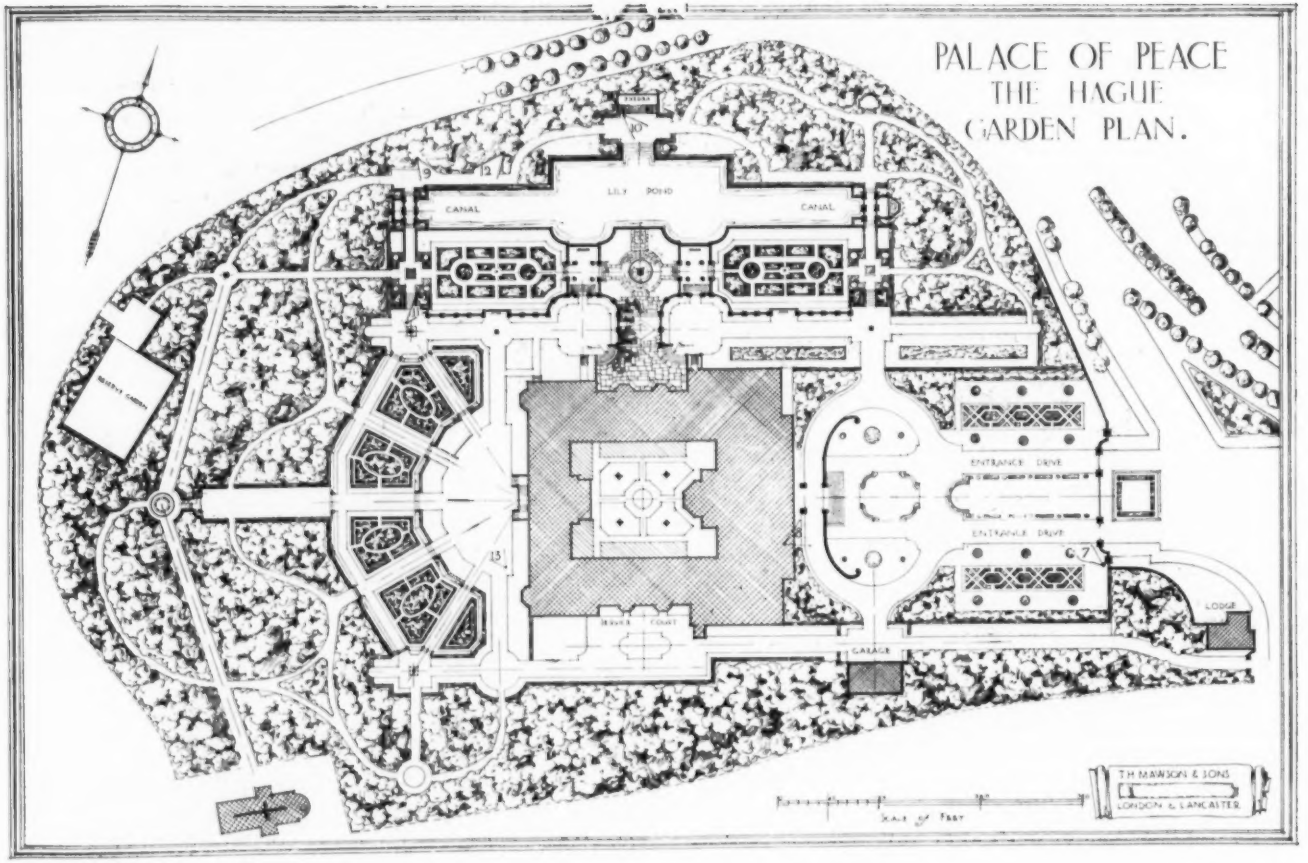
Thomas H. Mawson, Landscape Architect



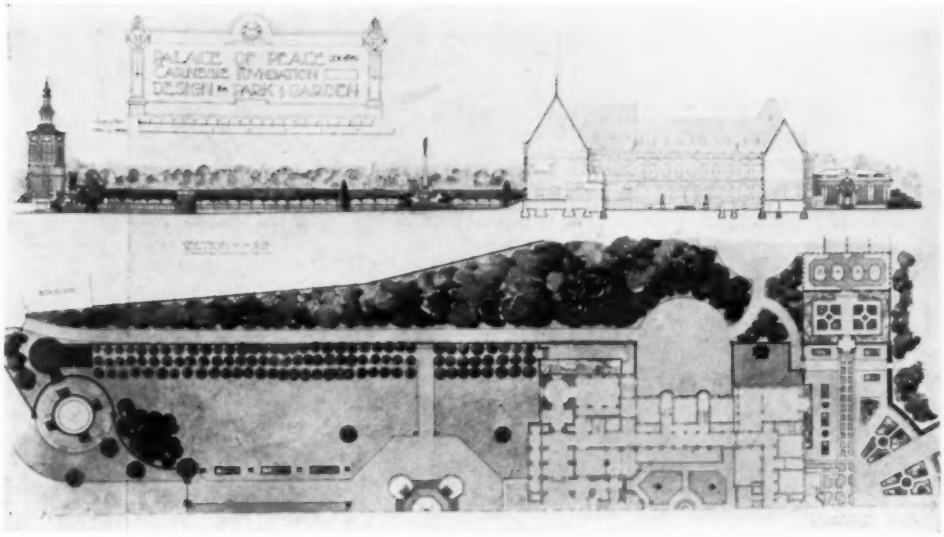
Gardens

PALACE OF PEACE, THE HAGUE, HOLLAND

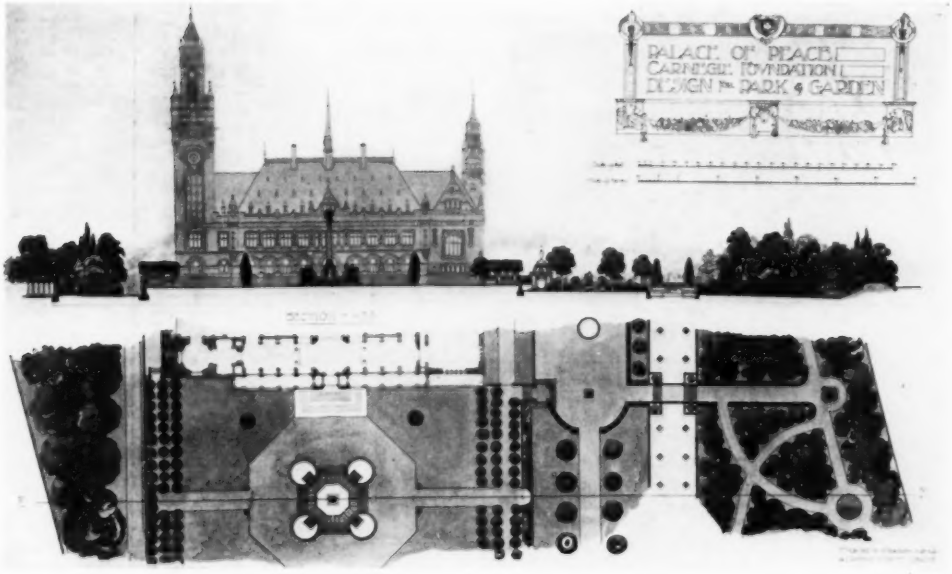
Thomas H. Mawson, Landscape Architect



PALACE OF PEACE, THE HAGUE, HOLLAND
Thomas H. Mawson, Landscape Architect

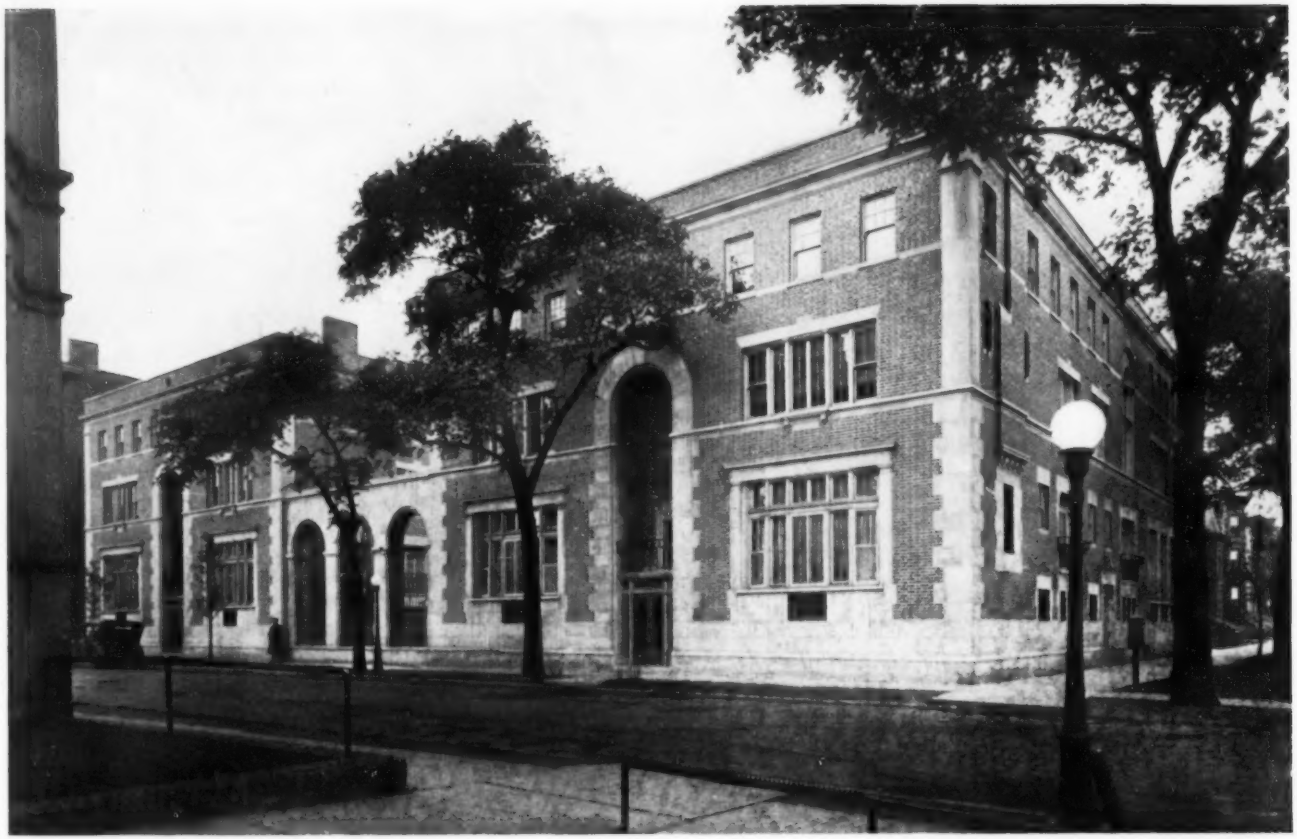


Plan showing from the entrance through the carriage court to the Peace Palace.



Plan traversely across the carriage court

PALACE OF PEACE, THE HAGUE, HOLLAND
Thomas H. Mawson, Landscape Architect



DUPLEX APARTMENT BUILDING, CHICAGO, ILLINOIS
Rebori, Wentworth & Dewey, Inc., Architects

AN INTERESTING DUPLEX APARTMENT HOUSE *in* CHICAGO

REBORI, WENTWORTH & DEWEY, INC., ARCHITECTS

By

Wm. E. Parsons

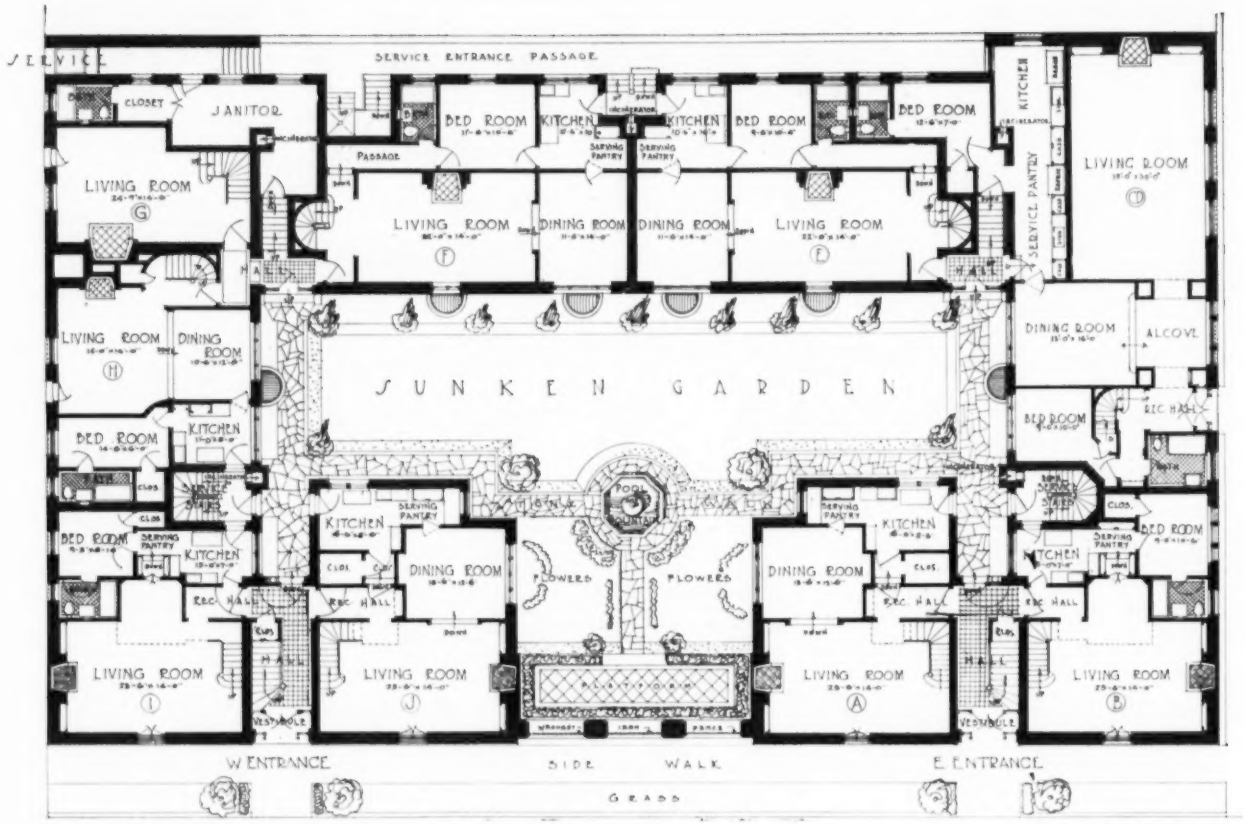
INCREASING concentration of population in large cities is perhaps inevitable, notwithstanding the popularity of the "own your home" movement and the prevailing idea of single detached homes representative of the standard in American communities as opposed to multiple family housing. Examination of recent zoning plans reveals the fact that large areas of existing single family houses are zoned for apartments. The Chicago Zoning Ordinance recently passed, provides for only 3.90 per cent of the city's area in the exclusively single family residence districts, as against 42.71 per cent in the apartment districts; this as a result of the expressed wishes of the property owners themselves. Furthermore, building permits in the larger cities show that more homes are built in the form of apartments than as single family dwellings. In Chicago, during the year 1922 building permits were issued for 6,340 single family homes and 18,605 apartment units.

The art of planning multiple family houses has unquestionably greatly improved in recent years. Tenement laws have imposed minimum sizes of rooms and minimum light, air, and safety requirements. Public opinion has resulted in making for convenience, attractiveness and a greater regard for sunlight and outlook. Generally, apartment buildings of twenty years ago are found to be difficult to rent, or command lower rentals. However, there is still room for great improvement in the development of apartment design with a view to creating home-like conditions. It is evident that the next move will be to introduce a degree of individuality into the apartment. In coöperative apartment buildings, which are increasing in popularity, there is an opportunity, if not a demand, for the architect to consider the personal wants and tastes of each individual tenant-owner.

The coöperative apartment building at 40-50 Schiller Street, Chicago, designed by A. N. Rebori, architect, of Rebori, Wentworth & Dewey, Inc., is a noteworthy contribution to the list of successful apartment homes, and deserves a close view of its features, both financial and architectural.

There are eight ownerships in the stock of the company incorporated under the laws of Illinois, all involving an equal number of shares. The paid-in stock is approximately 44 per cent of the total investment of land and building, the balance of the cost being covered by five-year bonds secured by a first mortgage on the property. The owners have leased their apartments at rentals varying with the size and location. Since there are twenty apartments in all, of which eight are leased by tenant-owners, there remain twelve apartments which, leased to non-owner tenants, are expected to return to the owners the cost of upkeep, and ultimately to retire the bonded indebtedness.

The size of the lot is ninety by one hundred and fifty feet, with street frontage on two sides and an alley frontage of ninety feet. Built around three sides of a courtyard, the middle part of the fourth side being open southward to Schiller Street, the building covers 73 per cent of the area of the site, a small percentage, considering that the site is a corner lot. The total frontage on the courtyard, which is developed as a formal garden,



The Architectural Record *September, 1923*

Ground Floor Plan

DUPLEX APARTMENT BUILDING, CHICAGO, ILLINOIS
Rebori, Wentworth & Dewey, Inc., Architects

slightly exceeds that on the two streets. Eight apartments have frontage on the streets only, four on the courtyard only, and eight front on both the streets and the courtyard. It is an interesting fact that the rental agent proposed somewhat lower rates for the apartments fronting on the courtyard only, but the demand for these apartments on account of absence of noise from street traffic is evidence that courtyard frontage in large cities may become the most desirable.

As a general rule, the typical apartment house plan in European cities develops greater frontage on courtyards than on the streets. In Paris particularly, the typical plan includes the courtyard, and usually a second courtyard or garden, the most desirable apartments being those giving upon the courtyards rather than upon the streets. Evidently this arrangement is a survival of the eighteenth century *hotels privés* such as existed on the Rue de Varenne, where only the stables and service rooms adjoined the street. The courtyard scheme is gaining favor in this country, but commonly they are too narrow. Fifty feet of minimum width should be allowed for air and sunshine, for the growth of trees to screen the view from the opposite side, and to muffle sounds. It is true that the usual one hundred and twenty-five feet depth of lots in American cities does not favor the court scheme. Two hundred feet depth would enable the architect to develop larger building units and would be more economical by reason of the possible reduction of street area.

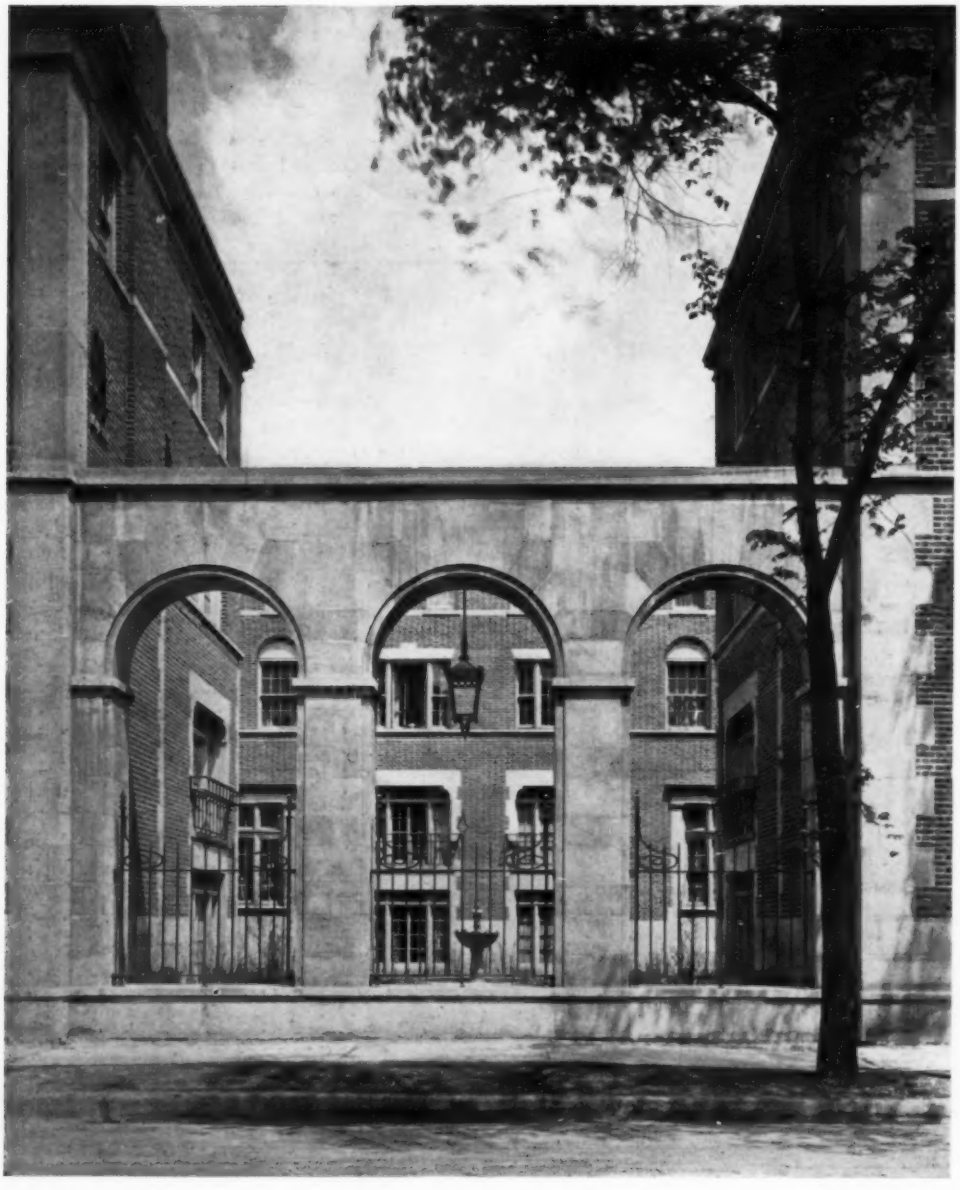
The distinctive feature of this apartment building lies in the combination of duplex and studio apartments, for of the twenty apartments all but six have living rooms which extend through two stories, forming an arrangement similar to artists' studios, with dining room, kitchen and maid's room on the main floor and two or more bedrooms above, reached by circular stairs and balconies. This affords opportunities for interesting design of which the architect has taken full advantage.

As there are two ranges of duplex apartments, a lower and an upper, the building may be regarded as either a two-story or a four-story building according to whether the section is taken through the studio-like living rooms or through the dining rooms, kitchens and bedrooms. As a matter of fact, in the eyes of the Building Department of the City of Chicago, it was declared to be a four-story building, so that the usual construction permitted in three-story apartment buildings was not passed by that department. In consequence, metal lath and gypsum block partitions were used throughout. The public stairs are fireproof.

The aim of the projectors was to form in a corner lot of slightly less than one-third of an acre, a collection of city homes of the greatest possible home-like qualities. In this they have succeeded to a marked degree. In fact no two apartments are alike, the interior in each case having been designed to meet the particular need or taste of the prospective owner or tenant.

In the exterior design, the architect seems to have sought to make evident the separation of the home units, taking advantage of the stairways for this purpose and marking them off with narrow and deep archways. The separation of the home units is also evident from the belt courses and from the fenestration which is in itself interesting. There is in these elements a certain appeal of the picturesque and at the same time a sense of orderly arrangement. There is a judicious balance of limestone and brick work, and it is to be observed that the mortar joints are wide and of light color so that the stone and brick seem to belong to the same wall plane instead of producing an excessive contrast.

It pleases me to see a bit of architecture which is a thoughtful expression of structural conditions rather than a conscious effort to reproduce a given phase of historical style. Yet in the brick work, the stone quoins, lintels and flat pilasters, there is a pleasing echo of eighteenth century domestic architecture.



Central Arch at Open End of Court
DUPLEX APARTMENT BUILDING, CHICAGO, ILLINOIS
Rebori, Wentworth & Dewey, Inc., Architects

Garden Elevation Showing Fenestration
DUPLEX APARTMENT BUILDING, CHICAGO, ILLINOIS
Rebori, Wentworth & Dewey, Inc., Architects

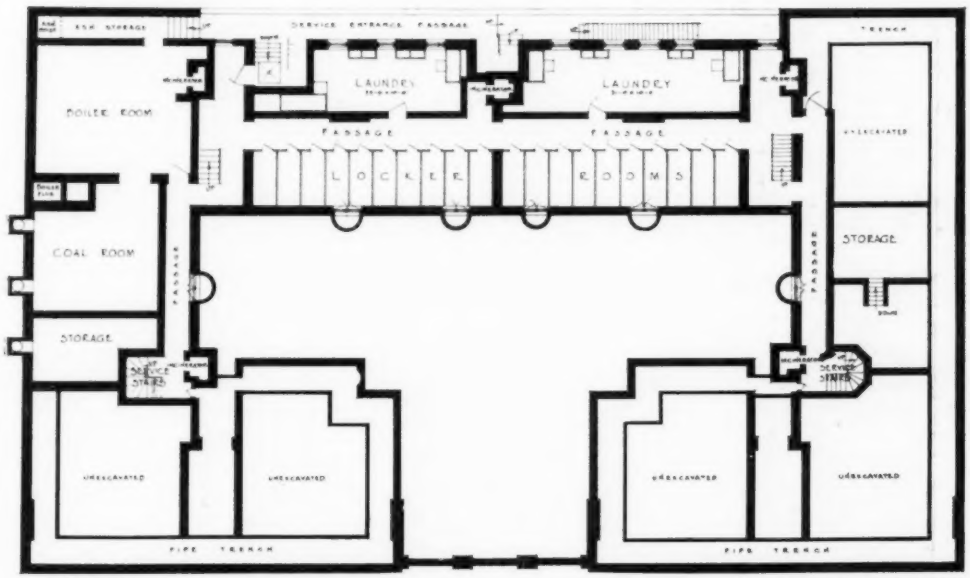
First Floor Plan

Second Floor Plan

DUPLEX APARTMENT BUILDING, CHICAGO, ILLINOIS

Rebori, Wentworth & Dewey, Inc., Architects

Third Floor Plan



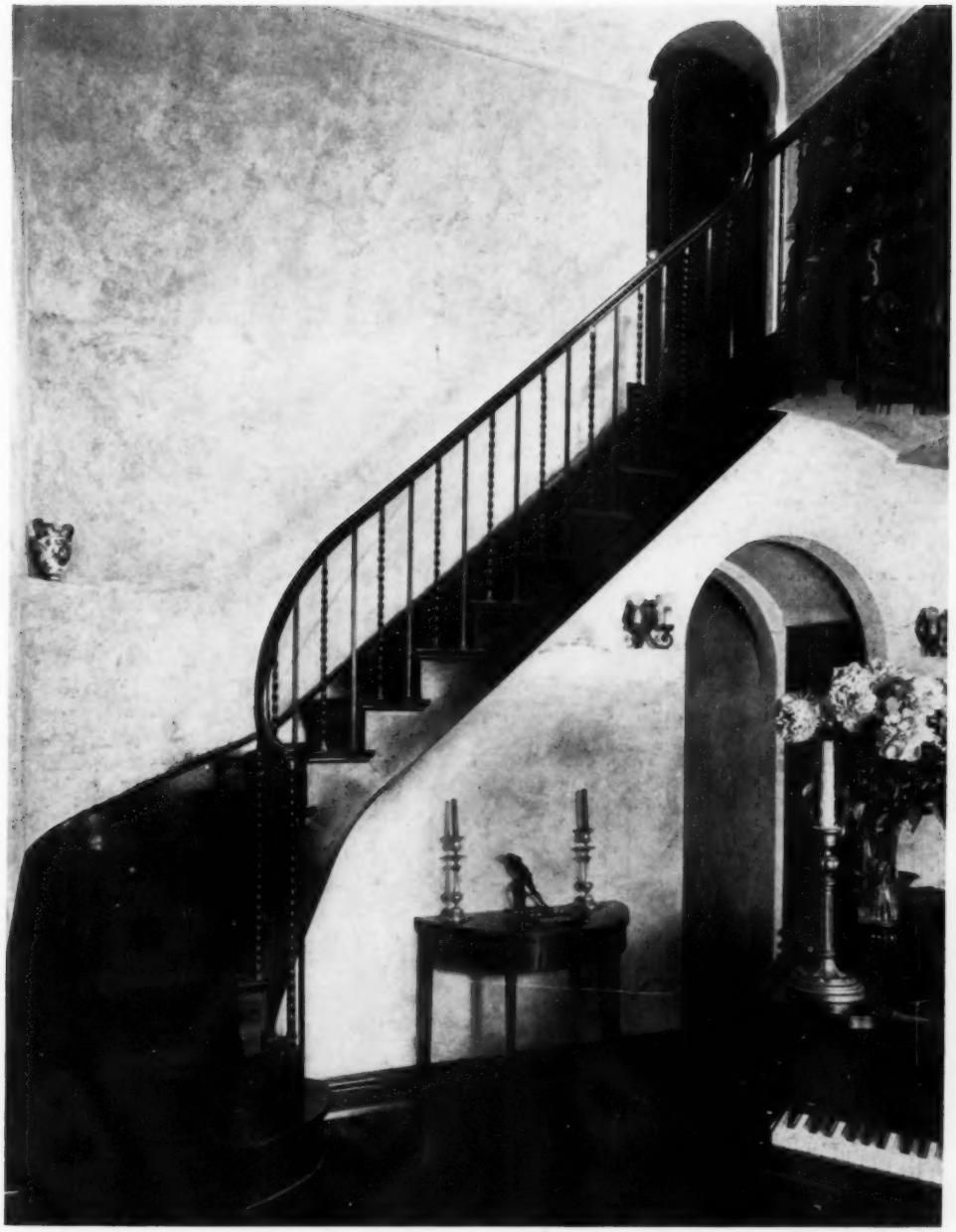
Basement Plan

DUPLEX APARTMENT BUILDING, CHICAGO, ILLINOIS
Rebori, Wentworth & Dewey, Inc., Architects

Entrance

DUPLEX APARTMENT BUILDING, CHICAGO, ILLINOIS

Rebori, Wentworth & Dewey, Inc., Architects



Stairs Leading to Gallery and Bedrooms
DUPLEX APARTMENT BUILDING, CHICAGO, ILLINOIS
Rebori, Wentworth & Dewey, Inc., Architects

Fireplace and Window from Dining Alcove
DUPLEX APARTMENT BUILDING, CHICAGO, ILLINOIS
Rebori, Wentworth & Dewey, Inc., Architects

High Living Room with Dining Alcove
DUPLEX APARTMENT BUILDING, CHICAGO, ILLINOIS
Rebori, Wentworth & Dewey, Inc., Architects

A Two-Story Living Room
DUPLEX APARTMENT BUILDING, CHICAGO, ILLINOIS
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Living Room
DUPLEX APARTMENT BUILDING, CHICAGO, ILLINOIS
Rebori, Wentworth & Dewey, Inc., Architects

One of the Single Story Living Rooms
DUPLEX APARTMENT BUILDING, CHICAGO, ILLINOIS
Rebori, Wentworth & Dewey, Inc., Architects

AD QUADRATUM

A REVIEW

By Charles H. Moore

THIS ELABORATE WORK* is intended to show that in ancient times and during the Middle Ages, not only was all religious architecture designed on strictly scientific geometrical principles of proportion, but that the square, with the many constructions to which it lends itself—and not the triangle as has been more commonly thought—gave every proportion and insured structural stability. Thus the author maintains virtually that the planning of temples and churches of the past was essentially a matter of mathematical science. "This general system," he declares, "is derived from the logical and yet varied uses of a certain proportion between the width, the length, and the height of the building, the construction being planned upon the ever-varying play of the elementary regular polygons and their angles." "That in the Middle Ages," he says further, "the geometric system of a building should have been considered the very point of its planning is shown in the famous extract of the *Discussion of the Building Counsel of the Cathedral of Milan in* 1398. The Italian masters at a critical point during the work had summoned Master *Jean Mignot* from Paris. In answer to his criticisms of the construction they said, rather unfortunately, "that the science of geometry was of no importance here, because science is one thing, art another," to which the Frenchman answered irrefutably, "Art without science is nothing." But I think it should be clear that the Frenchman's answer is by no means conclusive. If it were true, it would make science the primary principle of art, and art would thus become a mere matter of scientific prescription. Few, however, will deny that art is primarily and essentially an expression of human feeling — which immeasurably transcends mere science, in the making of a work of art.

Mr. Lund's belief that in the Middle Ages a scientific geometrical system universally prevailed in the design and construction of churches cannot be substantiated. It is, in fact, negatived by the very extract which he here produces; for the Italian masters, in this case, knew nothing of such a system. That men charged with the important work of building a great cathedral church were ignorant of it is proof that it did not prevail in general practice. But it should be realized that the fourteenth century was not the great age of mediaeval church building, and that therefore the works of that time do not afford enlightenment on the principles that governed mediaeval art in its integrity. In the fourteenth century, and more particularly at the close of it when this counsel of Milan was held, science, in France, was already usurping the place of living art. If we would find the principles that controlled the great architecture of the Middle Ages, we must go back to the twelfth and early thirteenth centuries; for these principles did not survive intact after that time. The monuments in which they are most fully developed are the Cathedrals of Chartres, Amiens, Reims, and a few others. The Italian masters of Milan were right beyond question, in saying that art is one thing, science another. It does not, however, follow that they were right in defending the design and construction of Milan Cathedral—a monument that has none of the qualities of great mediaeval art.

*Ad Quadratum — A Study of The Geometrical Bases of Classic and Mediaeval Religious Architecture with special reference to their application in the Restoration of The Cathedral of Nidaros (Throndhjem) Norway. By Fredrik Macody Lund. Printed by order of The Norwegian Parliament and Published by B. T. Batsford, Ltd., High Holborn, London, 1921.

It should be obvious that science cannot be the moving principle of any art; for science is only knowledge, and is therefore, in itself, sterile. Human feeling and imagination are what give the creative impulse of art. In the Middle Ages the architect was schooled in the traditions and the current practice of his craft, the science of it being for the most part, if not altogether, unknown to him. This is no fancy, it is demonstrable fact. We are not in the dark on this point. For, in addition to what the extant monuments themselves teach, we have first-hand written and graphic information in the album of Villard de Honnecourt, preserved in the National Library of Paris. This precious little book—which is a sketch-book with written notes—gives clear evidence as to the extent of scientific knowledge, and methods of practice that prevailed among the master builders of the best time of French Gothic architecture. Its author, as the book itself makes clear, was a French architect of the thirteenth century, and his notes and drawings give ground for belief that he was one of the foremost masters of his time. It is a small parchment book containing many drawings, all done with the free-hand, and consisting of plans, elevations, and sections of buildings, together with a few sketches in perspective. There are also a considerable number of representations of birds, animals and human figures. Among the architectural subjects are several sketches of well-known buildings still extant, as the cathedrals of Laon and Reims. They are all fragmentary, no entire composition being given even as to plan; and all have the irregularities natural to free-hand work. But they show the economy of line and decision of hand of a practiced master.

In a note at the beginning the author says that in the book will be found very helpful instruction in the fundamental principles of masonry and carpentry, and also the method of drawing as the art of geometry teaches.* But the geometry is very limited, and is confined to such matters as "how to find the centre of a circle," "how to describe three different arcs with a single radius," and so forth. Of these and a few other simple problems, the author remarks: "Sur les quatres pages suivantes sont des figures de l'art de géométrie; mais il faut mettre grande application à les etudier, si l'on veut comprendre le sense practique de chacune." There is no suggestion of any geometric systems of proportions as bases for architectural design, such as Mr. Lund supposes. Had there been such systems in use, it is incredible that a book like this should not afford some indication of it—more particularly since there is a plan given for the sanctuary of a large church, signed as the author's own composition; but with no geometric constructions to fix proportions. The only drawings in the book that show any application of geometric constructions are those of human and animal figures, to which some roughly drawn triangles are applied; and in one case a face is enclosed within a square divided into three parts to mark the levels of the eyes and the end of the nose.

The book is a very important document as showing that in the best period of the Middle Ages architecture was practiced naturally as an art, not as an applied science. The master builders, as their extant works show, were experienced craftsmen, working on traditional and communal lines. But, as their works also show, they were men of imagination, invention and highest artistic culture.

It may be remarked, too, that mathematical formulae as bases for design were equally unknown among the most famous architects of the Italian Renaissance. This is clear from the well-known remark of Brunelleschi, that "in building experience teaches what is to be done," and from the saying of Michaelangelo, that the artist "should have the compass in his eye."

We know, indeed, that from ancient times there was a tradition of fixed proportions in the general planning of religious buildings; and I do not doubt that Mr. Lund is right in attributing the ori-

* "dans ce livre on peut trouver grand secours pour s'instruire des principes fondamentaux de la maçonnerie et de la construction en charpent. Vous y trouverez aussi la méthode pour dessiner au trait, selon que l'art de géométrie le command et enseigne."—(Quicherat's translation).

gin of these proportions to a recognition of the spiritual significance of numbers, so plainly involved in what is said of them in the Bible—as in the proportions laid down for the building of the Temple of Solomon, and the mystic proportions of the holy city of the New Jerusalem that "lieth foursquare," the "length and the breadth and the height" of which "are equal" (Rev. xxi, 16). And we know from Vitruvius, as Mr. Lund has pointed out, that there was in classic antiquity some survival of the idea of definite proportions for sacred edifices, though I do not know that we have any particular information on the matter. Referring to the mathematical use of the square in fixing proportions, Mr. Lund's remark, "The chief cause of this use of the square was a thought buried deep down in man's consciousness of the world, in ancient times," might very well be true if the word "this" were stricken out and the word "the" inserted. But what is known of ancient methods of planning gives no ground for the affirmation that this elaborate mathematical use of it was ever made in architectural practice.

It is important to bear in mind that in mediaeval building proportions were often changed, either as the work proceeded, or soon after completion. It is recorded that in rebuilding the dome of Saint Sophia of Constantinople, after the collapse of a part of it soon after its completion, the crown was raised about twenty feet. The clerestory of the Cathedral of Senlis, originally built about the middle of the twelfth century, was rebuilt in a later style, and raised to a much greater height. The change, of course, spoiled the proportions, but it was made by men who, on Mr. Lund's theory, should have been aware of the necessity of strict conformity to mathematical law in matters of proportion. The extensive changes, made during the thirteenth century, in the Cathedral of Paris are well known. If the proportions were right in the first construction, they cannot, of course, be so now. The changes here were confined to structural details, it is true; but Mr. Lund teaches that the laws of proportion are determined geometrically down to the smallest details. Again, most drastic changes were made in the architectural scheme of the choir of Beauvais, even before its completion, on account of weakness in construction, which threatened collapse, and made it necessary to substitute a sexpartite form of vaulting for the quadripartite system first intended. This doubled the number of bays, and thus materially altered the proportions of the composition, both internal and external. Such instances might be multiplied indefinitely. There are few buildings of the Middle Ages that have not important parts designed in different styles with different proportions.

Moreover, everyone at all acquainted with mediaeval monuments knows that very considerable, and often astonishing, irregularities are found in them. None of them are perfectly regular, either in their larger parts or in their details. Nothing like the mechanical regularity of modern work is ever found in them. Bays are rarely, if ever, exactly equal in width, and are not seldom strikingly unequal. The parts, from largest to smallest, are so unsymmetrical that they will not coincide with any regular geometric figures. It was on this ground, among others, that Wren—with his unsympathetic feeling for mediaeval architecture — condemned the old church of St. Paul, and found excuse for demolishing it, in order to build the existing fabric. It may be said in passing that the scheme of St. Paul's is based on no fixed geometrical proportions, although Wren was primarily a mathematician. The design was altered during construction, as well as before; and the monument as it stands was never embodied in any set of drawings. The same is true, as is well known, in the case of St. Peter's in Rome—from which Wren drew a large part of his inspiration.

The greater part of Mr. Lund's book—which extends to 372 closely printed quarto pages—is devoted to detailed demonstrations of many geometrical constructions based on the square that may be used in determining proportions of widely varied character. A very considerable part of the subject matter relates to the reconstruction of the Cathedral of Nida-

ros, of which Mr. Lund was put in charge in the year 1906, and in connection with which, he tells us, he discovered the geometric principle of which the book treats.

In addition to the large number of graphic illustrations embodied in the text, there is a supplementary portfolio of large folded sheets, giving extensive applications of the system to many mediaeval buildings, including the cathedrals of Paris, Amiens, Rheims, Laon, Bourges, and Chartres. For the curious in such matters these may be of interest, and to many they may appear to furnish irrefutable evidence that the monuments were designed on this mathematical basis. The coincidence of the geometric constructions with the plans, elevations and sections of the buildings seems remarkably complete. Be this as it may, it by no means establishes the proposition that the builders of the Middle Ages determined their proportions mathematically. The coincidence only shows that the artist by intuition may obey laws that are scientifically unknown to him. It should be remembered that other systems of proportion have been formulated which seem to agree with the buildings to which they are applied. The most important of these, so far as I know, is that of Viollet le Duc. In his *Entretiens sur L'Architecture* (Vol. I, pp. 406, 407) he gives constructions based on the triangle, which he applies to the cathedrals of Paris and Amiens; but he nowhere suggests that the builders of these monuments worked out their proportions mathematically. He recognized that the artist is guided by intuition and tradition rather than by conscious science.

But it is important to realize that there is a basal geometric principle in all things which the artist instinctively apprehends. It is beautifully illustrated, for instance, in the trillium flower, with its pointed petals in a triangle set within its sepals in another triangle, so that together they form a six-pointed star. But this principle is never carried out formally in nature. In the same way, with constant and extensive deviations from rigorous mathematical exactness, it underlies all good architectural design. The architect never works from formulas; he does not geometrize; he perceives.

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St. Ambrose Chapel

CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK CITY

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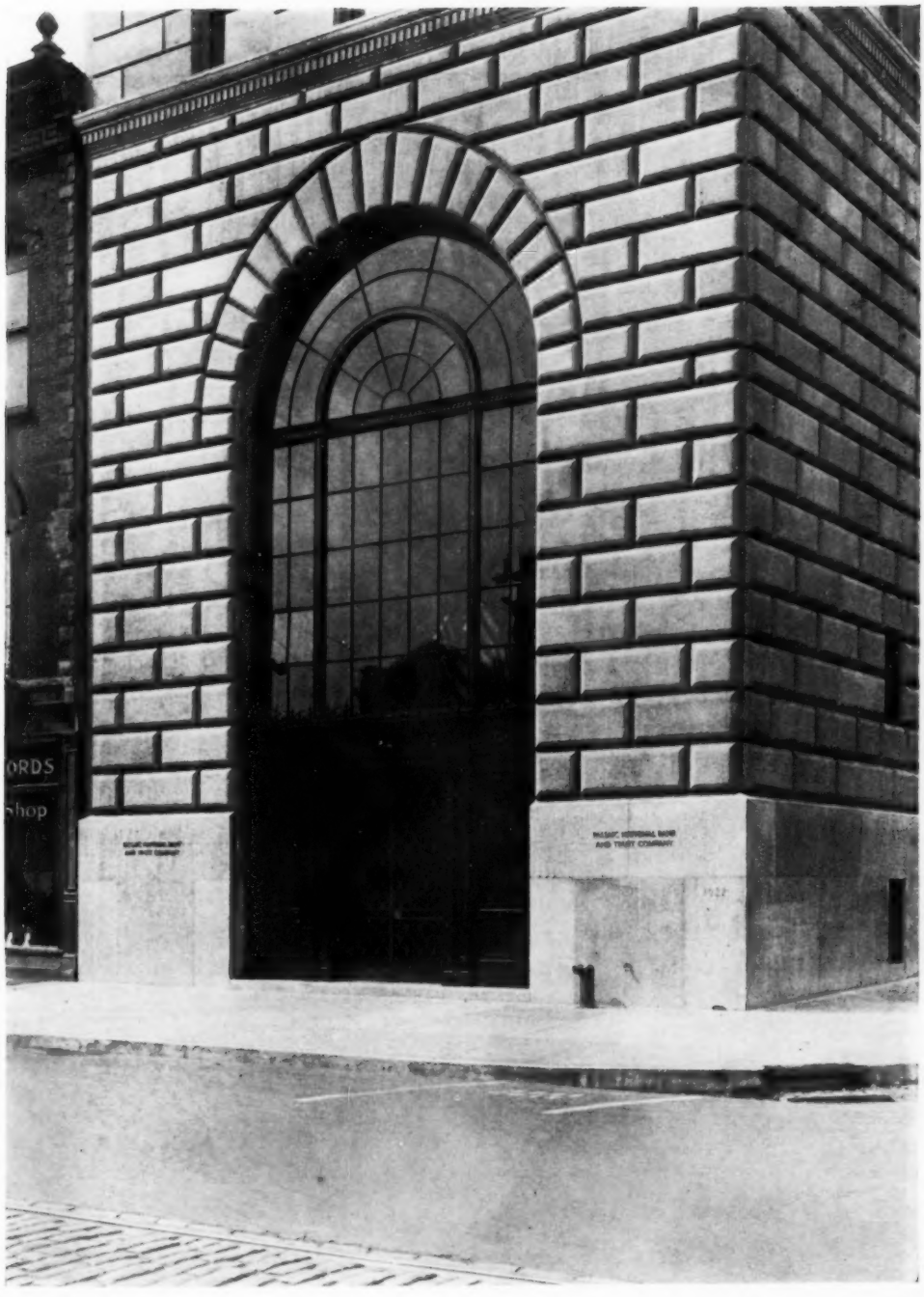

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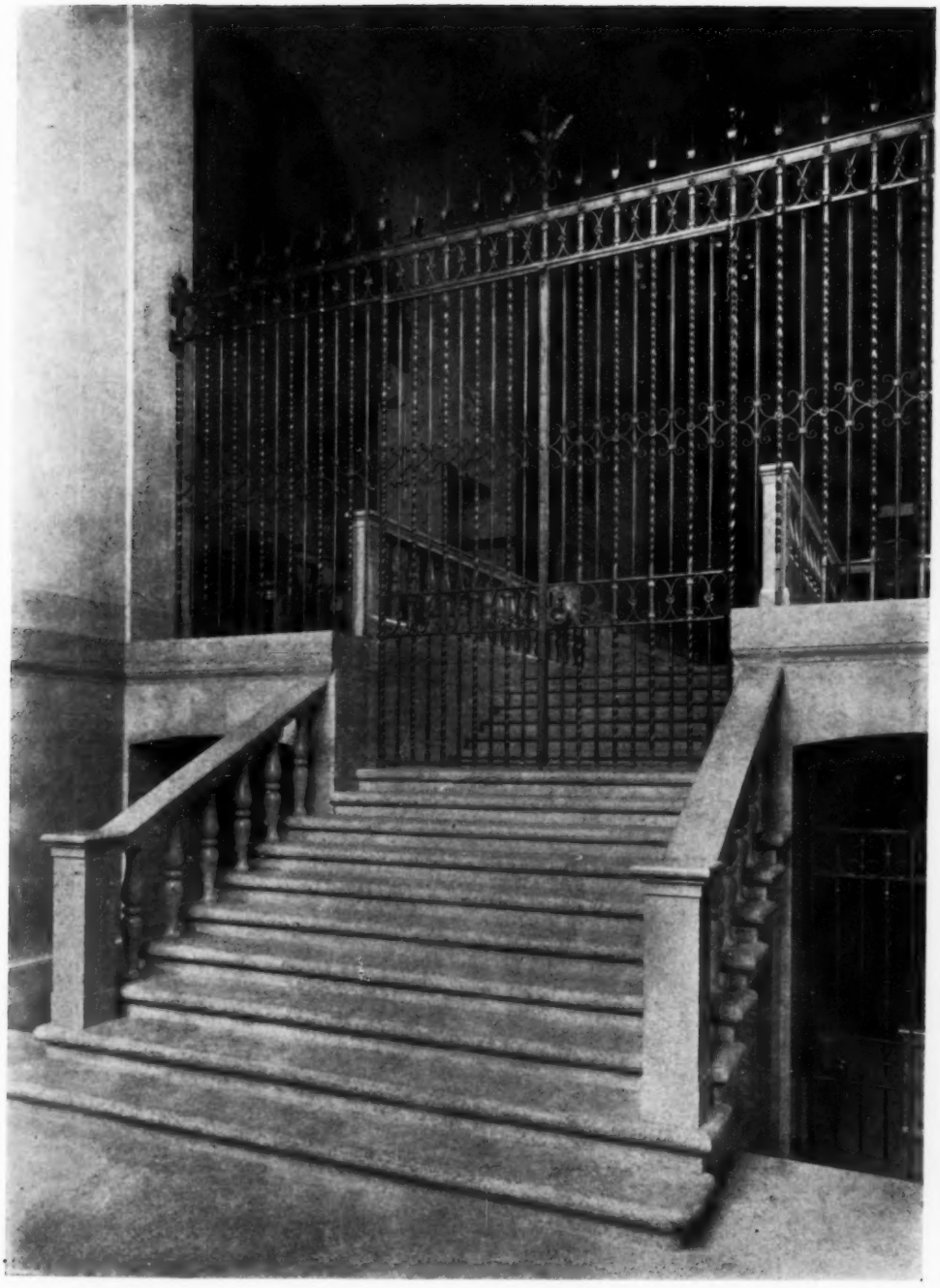

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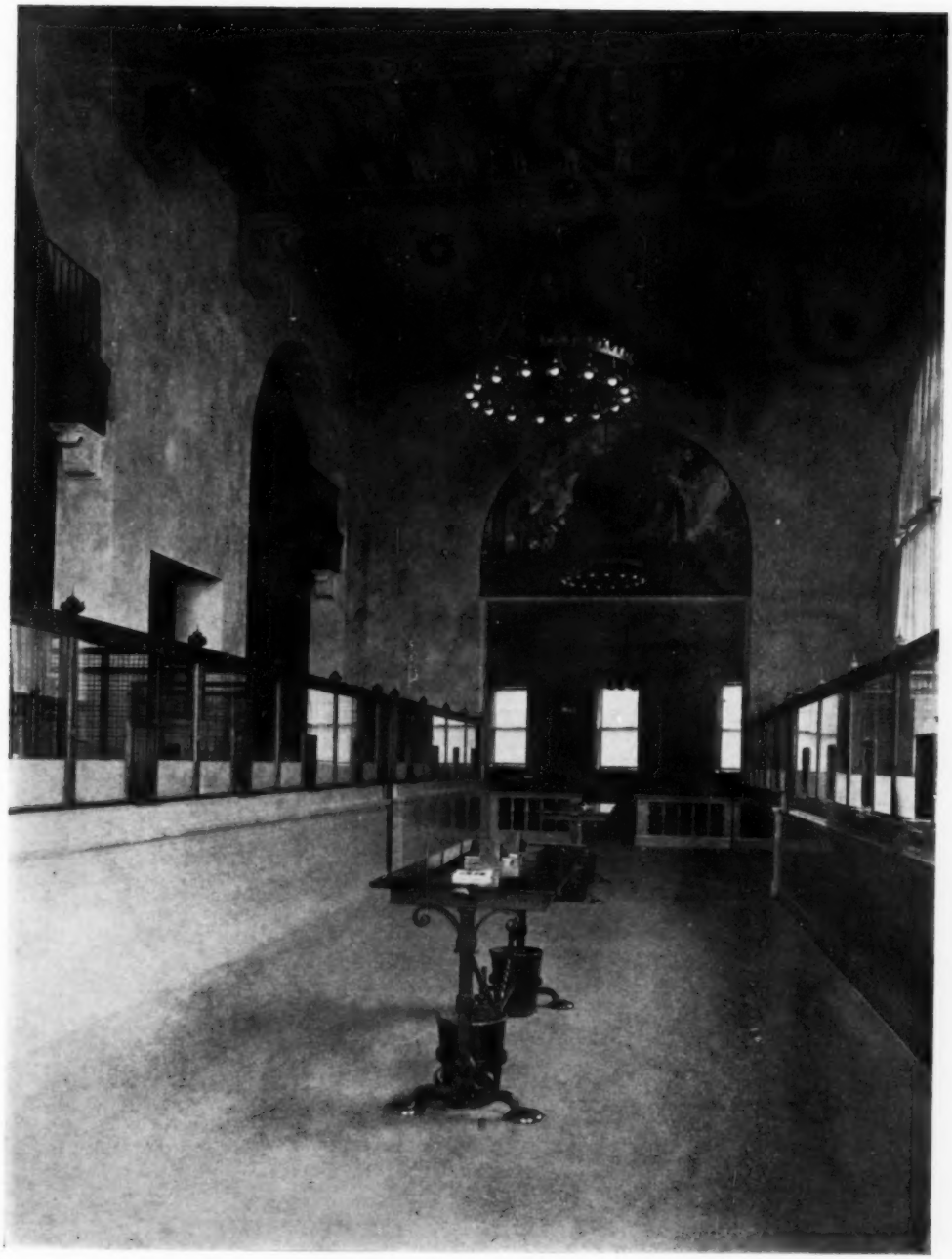

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Ruth Dean, Landscape Architect

Architect
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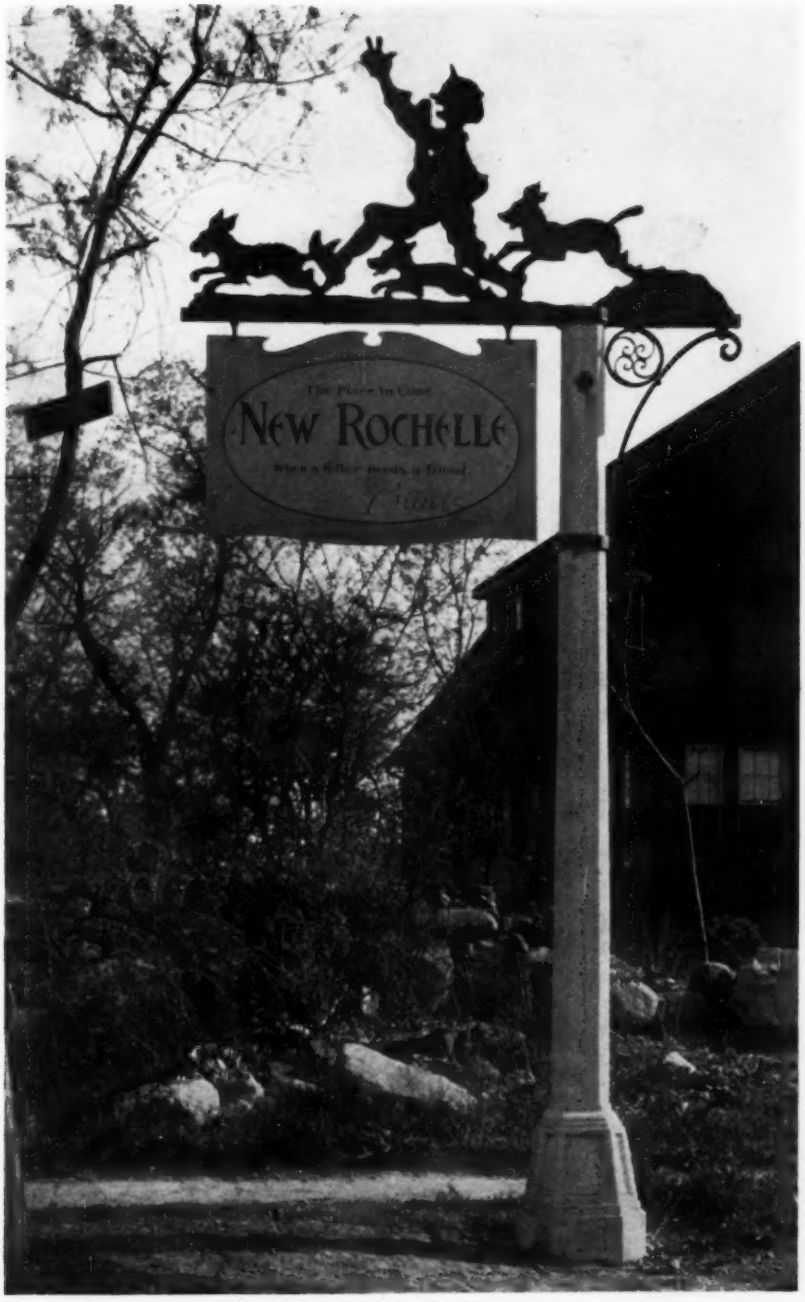

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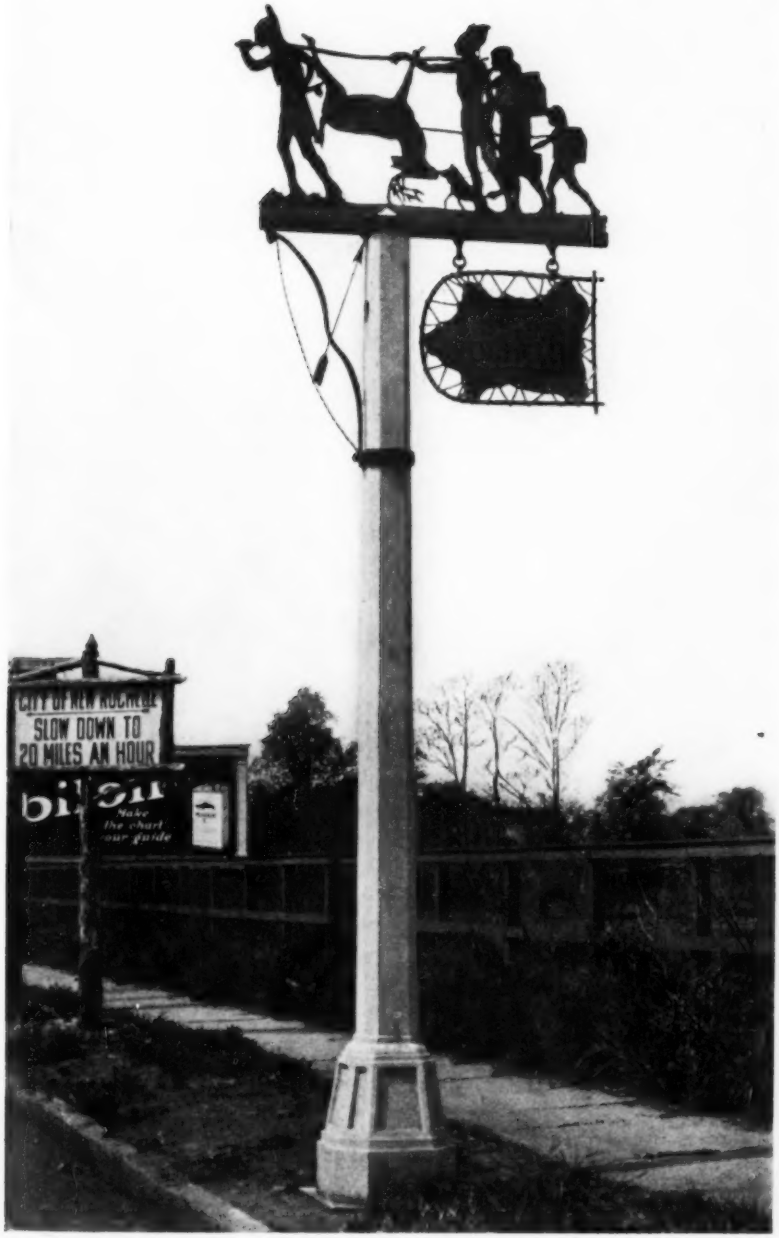

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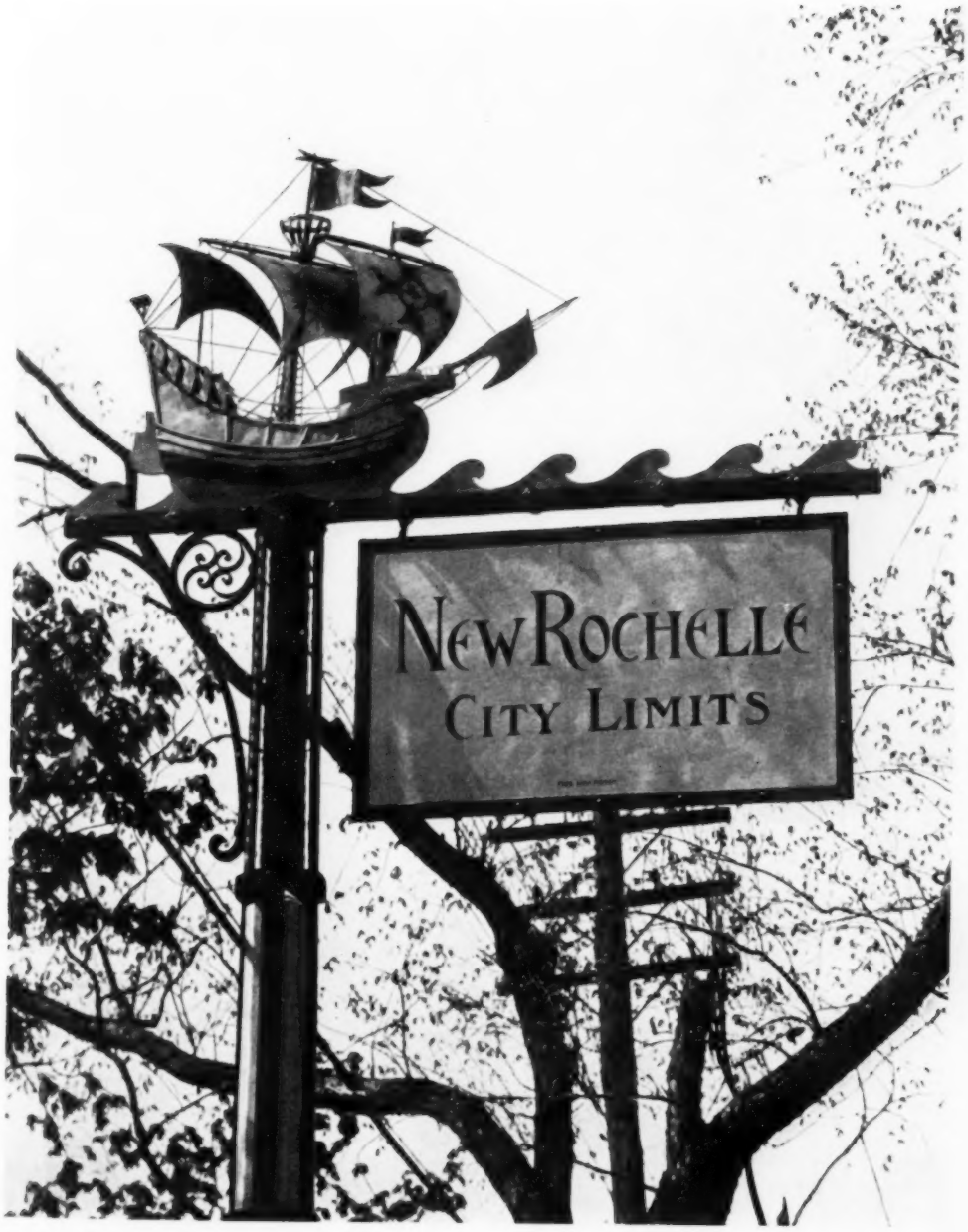

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THE STATE ARCHITECT *and* HIS WORKS

I 2- The State Agricultural College and Other Institutions

By Prof. A. D. F. Hamlin

In The January issue of the Architectural Record I endeavored to set forth the history of the establishment of the New York State Architect's office, technically known as the Department of Architecture of the State, to explain the organization and functions of the office, and to describe one phase—the military—of the remarkable work accomplished under Dr. Pilcher, its incumbent since its establishment on the present basis in 1914 to March, 1923.* In fulfilment of the intention expressed in that article to discuss another phase of its work, I propose in the present article to say something of Dr. Pilcher's work in the field of institutional architecture, with especial reference to the State College of Agriculture at Ithaca. The selection of this particular enterprise, suggested long ago by the Editor of the Record, is due to the admirable procedure by which it was initiated and developed, and has since been carried on, as well as to the intrinsic interest of the problem and of its solution by Dr. Pilcher.** When, in November, 1918, Dean Mann of the State College of Agriculture presented to the Agricultural Council of the Trustees of the Cornell University a detailed "Statement of the Needs of the New York State College of Agriculture at Cornell University" (the College of Agriculture) with a view to securing legislative action for the meeting of these needs, he and his College were setting an excellent example of the way to go about such a business. In the course of this statement the Dean, in his insistence upon the necessity for an ordered, logical plan for the location of all future buildings, put his finger upon a difficulty which nearly all our great educational institutions have encountered, as a result of the short-sighted and inartistic practices of their earlier administrators. In how many cases have these men, with the most excellent intentions, no doubt, been content to erect buildings wherever seemed at the moment most convenient, with no thought of a consistent, logical arrangement; with no conception of architectural effect; with no adequate vision of future needs; without expert advice, and too often from plans by architects of inferior ability! How Dean Mann grasped the nature of his problem, and how his views and his efforts were seconded by all the authorities concerned, I shall presently try to set forth, as a shining example for all to imitate who have to deal with problems of like nature.

But in order to understand the nature and magnitude of the problem it is necessary to know something of the history, complex organization and varied activities of the State College of Agriculture.

Cornell University was chartered in 1865 by the State under the provisions of the Morrill or Land Grant Act of 1862, which made extensive grants of Federal lands to each State for the establishment within its territory of at least one college whose leading object should be to teach, among other subjects, "agriculture and the mechanic arts . . . and to promote the liberal and practical education of the industrial classes." Endowed by the liberality of Ezra Cornell, who presented it with his fortune and a superb site of 200 acres in Ithaca, Cornell University was opened to

*Dr. Pilcher resigned as State Architect, March 1, 1923. As consulting architect to the United States Veterans Bureau, his work now is nationwide.

**I beg to acknowledge with thanks the great assistance given me by Dean A. R. Mann, of the State College of Agriculture, in the preparation of the first part of this article, not only by furnishing copies of original documents, but also by revisions and correction of my first draft thereof.

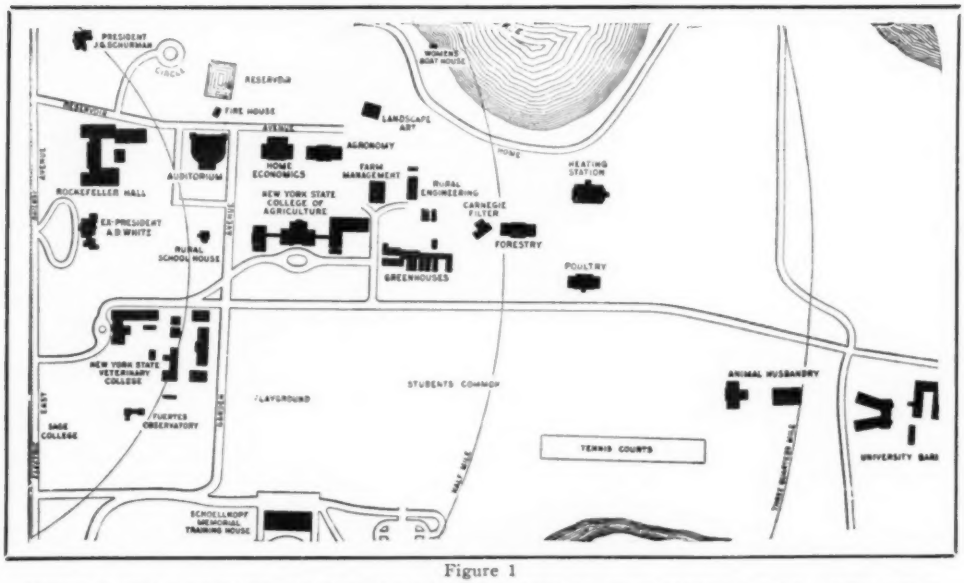


Figure 1

GENERAL PLAN OF EASTERN PART OF CAMPUS, CORNELL UNIVERSITY, ITHACA, NEW YORK

students in 1868. With only a single building at first, soon increased to three, it has since grown into a mighty University, with a superb campus and a vast array of buildings on one of the most picturesque sites in the country. Its Department of Agriculture was long without a separate building, and was merely a small department of instruction in the University. It was not until 1897, when a formal division of the University into colleges was made, that the department of Agriculture became a distinct organism as the College of Agriculture of Cornell University.

Between 1868 and 1914 the Federal Government made further contribution to the land grant colleges by providing for the establishment of Federal experiment stations in connection with each of them (Hatch Act, 1887); by imposing upon them the responsibility for additional public service, for which limited funds were made available, by providing for the strengthening and broadening of the resident instruction in them (second Morrill Act of 1890 and Nelson Amendment of 1908); by the further endowment of the experiment stations (Adams Act, 1906); and by the Lever Act of 1914, providing for extensive development of non-resident teaching in coöperation with the United States Department of Agriculture.

The great expansion of the Agricultural College began in 1904, when the State legislature recognized and established it as the New York State College of Agriculture, placed it under the charge of the Trustees of Cornell University as agents of the State, and appropriated $250,000 for the erection of three buildings, now known as Roberts Hall, Stone Hall and the old Dairy Building. In 1906 the State assumed the primary expense of maintaining the College, defined its functions and placed its administration in the hands of the University as its agent, which has ever since met the liberality of the State with like-minded liberality, both educationally and materially. The College of Agriculture has grown from the modest institution of 1903-04, with 296 students, to a vast institution officered by 287 persons, giving courses in nineteen departments to nearly 2,500 registered students in its courses of varying lengths, besides conducting extension courses, experimentation work both in its own laboratories, on its farms,

and at various points in the State, holding "Farmers' Weeks" and "Farmers' Field Days," and managing its own extensive farm of nearly 1,200 acres.

The importance of this college to the agricultural interests of the State, and the value, variety, and extent of the services which it renders not only to the farmers but to the whole commonwealth, it is impossible to exaggerate. These services are seen to be of three kinds:

(a) The training in agricultural science of competent farmers, technical specialists and home economics workers, by direct instruction in the classrooms and laboratories and by practical demonstration on its farms.

(b) The carrying on of scientific experimentation on soils, crops, breeding of animals, methods of production and distribution, the utilization of food products and the like.

(c) Extending to the farmers of all parts of the State the benefit of the resources of the college and of the results of its experimentation by means of extension courses, correspondence, conferences, consultations and advice.

These three functions are carried on by means of a very complex but remarkably efficient organization of the College into nineteen departments, each of which within its own field performs all three services of teaching, research and extension or non-resident instruction. In the latter the work of the college reaches throughout the State, and coöperation is had in all possible ways with a great number of organizations and communities.

II.

It needs no argument to show that the efficient carrying on of these multifarious activities must require a physical plant of no ordinary size and cost; and one, moreover, that should be capable of future extension to meet the inevitable expansion of coming years. These requirements were set forth first in the Report of the Trustees to the State Legislature in January, 1910, and later in the supplementary report or statement by the Dean, A. R. Mann, to the Council of the College, dated November, 1918, embodying the detailed statements of the then existing twenty-four departments of instruction as to the space and equipment required in the proposed new buildings. In this admirable document, after enumerating these detailed requirements, the Dean observes: "It is seen that we are confronted by large and somewhat complicated problems of expansion. We need a ground-plan for our future buildings, as it is evident that we have already located some of our buildings where they will not fit into the best permanent arrangement." This recognition of former errors and forethought for the future necessities I have already referred to; it is the central fact of the problem, and the wisdom that dictated it is seen in all the stages of the procedure in the enterprise.

Already in 1910, as we have previously noted, a report on the present and prospective needs of the institution had been presented to the State legislature which provided funds for some of the buildings called for, and in 1914 made a small appropriation for a Plant Industries Building, the next in order on the list. But the Great War put an end to further work except the study of plans.

The "Statement" of 1918 embodied the results of the intervening eight years' experience and set forth new requirements in addition to those specified in the Report of 1910. It requested the coöperation of the Trustees in a restudy of the building program of 1910; a request seconded by the Financial Committees of the Legislature. In preparing the new program the Dean first secured from every department of the State College a carefully detailed schedule of its requirements, and followed this up with a series of reports made by nearly 150 leading farmers of the State who, organized in twenty-four committees on as many distinct subjects to cover the varied activities of the institution, visited the College at their own expense to inspect its work and equipment, and expressed their own views of its requirements. The Governor was requested to send the State Architect to examine the College, which request was promptly complied with, and the Chair-

men of the Legislative Committees on Finances and on Ways and Means also visited it in order to gain first hand impressions of the situation. Thus the teaching staff, the Trustees, the farmers, the State Architect and the Legislature were brought together to consider a program prepared with scientific thoroughness and economic foresight. As a result, of $500,000, since when, that is for nearly three years, Dr. Pilcher has been occupied with the preparation of the plans for this expansion. In this work (writes Mr. Mann) "the State Architect has carried large responsibility and has whipped into most satisfactory shape all of the recommendations placed in his hands, which, of course, he has checked and sup-

Figure 2

MAIN GROUP, STATE COLLEGE OF AGRICULTURE, CORNELL UNIVERSITY, ITHACA, NEW YORK

Buildings, from left to right: Home Economics, State Hall, Roberts Hall, Dairy

the State Architect, following a series of conferences with members of the faculty, was provided with a complete and clear-cut statement of the requirements and with accurate surveys of the grounds to be occupied, to supplement his personal acquaintance with the site and existing buildings.

Upon the basis of this statement and the preliminary revised plans filed by the State Architect, the legislature in 1920 recognized the necessity of providing, sooner or later, new buildings to cost approximately $5,000,000 and authorized construction in the amount of $3,000,000, appropriating therefor a first instalment

plemented by intimate personal examination." He comments also on the sympathetic coöperation of Messrs. Sage and Machold, chairmen of the legislative Committees on Finance and Ways and Means, in the development of the tentative plans of 1920, and on the cordial coöperation of the Governor.

I have dwelt at length on these details of procedure because they present such an admirable example of the right way to do business of this sort. Foresight, large vision, careful preliminary investigation, thorough study of the problem before taking the first steps in its final solution, and then cordial co-

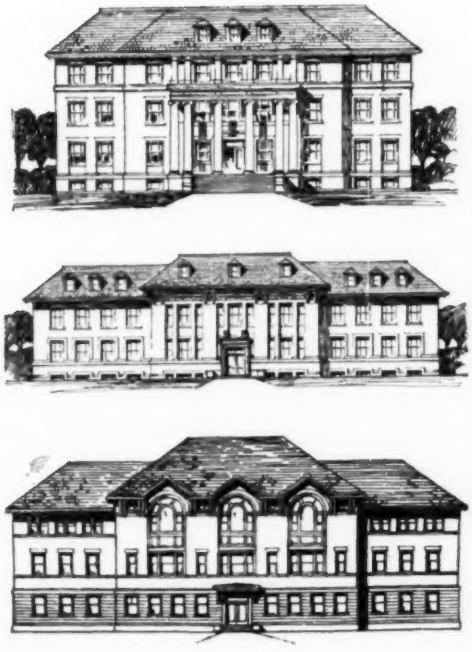


Figure 3

CORNELL UNIVERSITY, ITHACA, NEW YORK

Three Existing Buildings of the College of Agriculture showing diversity of form and architectural treatment. *(Reproduced from "The Buildings, Lands and Activities of the New York State College of Agriculture.")*

operation of all the interests concerned under and with competent expert advice —these are all too rare in the inception and carrying out of large public enterprises. One has only to recall the history of the New York County and City Court House to appreciate the difference between the right and the wrong way to do things, between public spirit on the one hand and political manipulation on the other, as the controlling factor.

III

If the patient reader will now refer to the general plan (Figure 1) of the eastern part of the University Campus occupied chiefly by buildings of the College of Agriculture, he will realize the difficulty of the problem set before the Architect. Apparently miscellaneous groups of buildings are seen dotted about on the landscape, with little or no reference to each other, and with no thought of the desirability or possibility of their final combination into a consistent and logical whole. Moreover the topography of the site is extremely irregular, "very accidental" as a Frenchman would say, Existing buildings must be preserved and utilized to the utmost, despite all differences of form, level, size, material and architectural character (Figure 3). Much of the seeming confusion was, after all, necessitated, or at least it can be explained, by requirements of practical convenience. The only important change allowed was the removal of the heating station at the eastern end of the main group to a site by the railroad, and the erection on its site of a large building for Rural Engineering. The plan Figure 4 shows the general scheme prepared by Dr. Pilcher and approved by the Trustees of the University and by the Legislature; while the plan, Figure 5, to a larger scale, shows the final development of the northern portion of this scheme. The two perspectives, Figures 6 and 7, represent the preliminary and the final designs for the architectural treatment of the revised plan of Figure 5.

The obvious point of departure for the new scheme was the existing group of five buildings east of Garden Avenue and north of the great playground or Students' Common; the three connected buildings for Agronomy (Stone Hall), Administration (Roberts Hall), and the Dairy Building, and north of these the Home Economics Building and Caldwell Hall (Figure 2). These buildings, erected between 1904 and 1912, were so situated as to suggest inevitably the creation of an open quadrangle or Court of Honor, closed at the eastern end only. At the eastern end of the present group stands the Farm Management Building. The six buildings and the other present buildings are of diverse shape, size and character (Figure 3); they were not the product of Dr. Pilcher's office. In his first scheme (Figure 4) the five of the main group were left intact, but the Farm Management Building and a smaller building behind it for Rural Engineering,

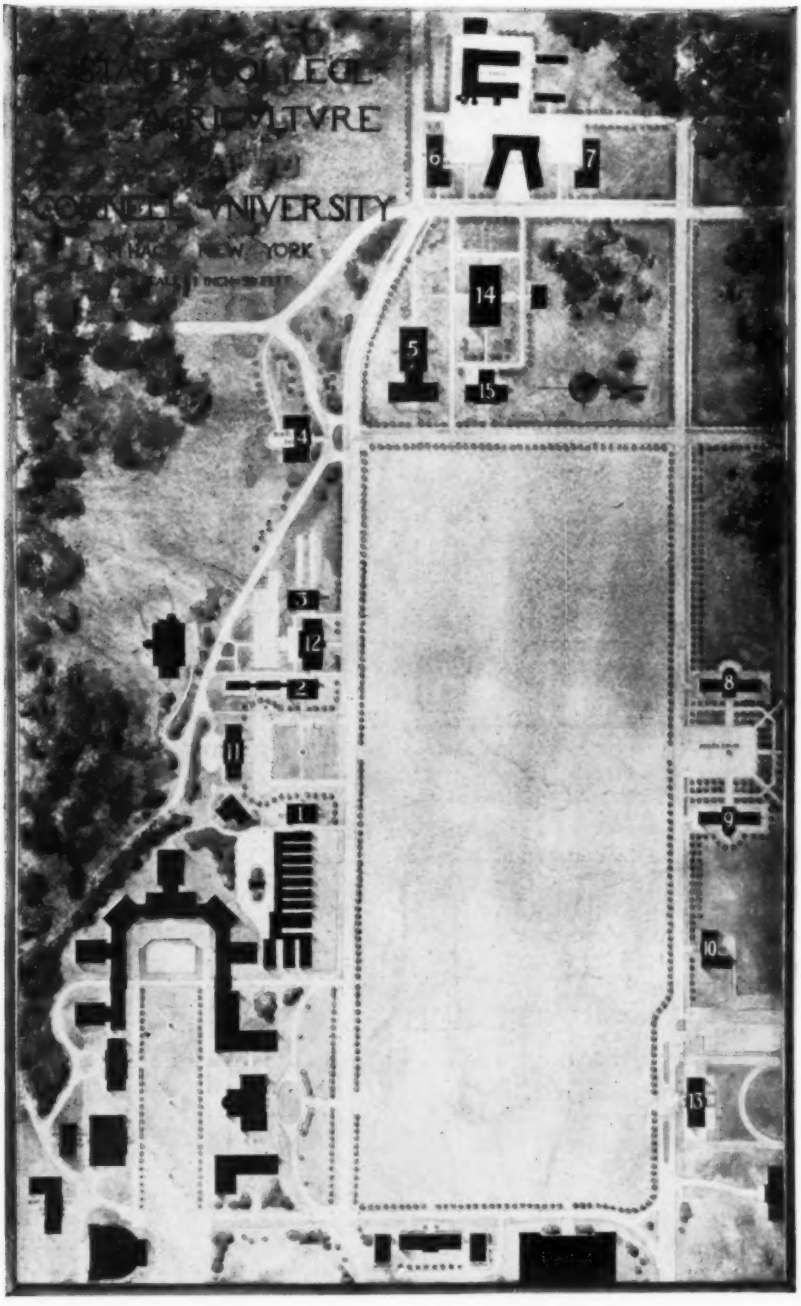


Figure 4

General Plan for Development of Buildings and Grounds Approved by New York State Legislature and Board of Trustees

NEW YORK STATE COLLEGE OF AGRICULTURE, CORNELL UNIVERSITY, ITHACA, NEW YORK

Lewis F. Pilcher, State Architect (1922)

1—Biology Building

2—Museum, Library Building

3—Auditorium

4—Plant Industry Building

5—Building for Agricultural Economics

6—Rural Engineering Building

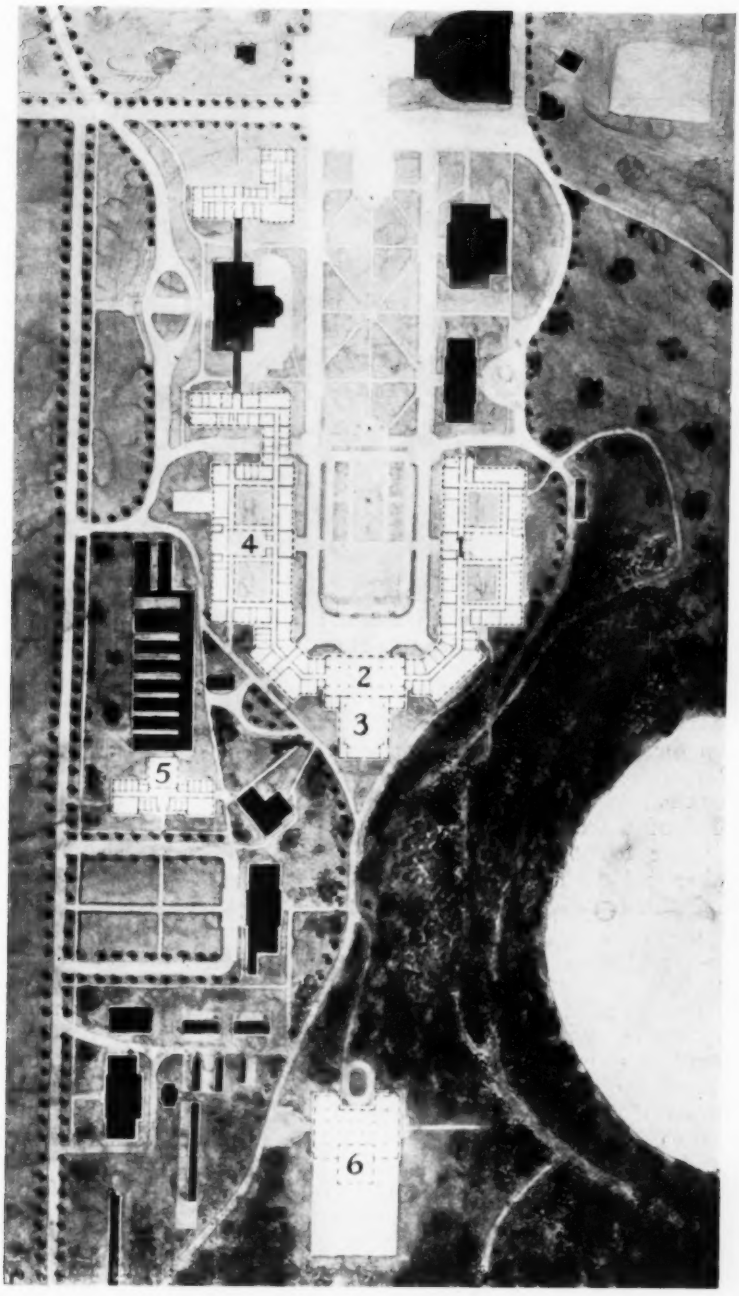


Figure 5

Revised Plan Showing Further Development of Plans for New Buildings

NEW YORK STATE COLLEGE OF AGRICULTURE, CORNELL UNIVERSITY, ITHACA, NEW YORK

Lewis F. Pilcher, State Architect (1922)

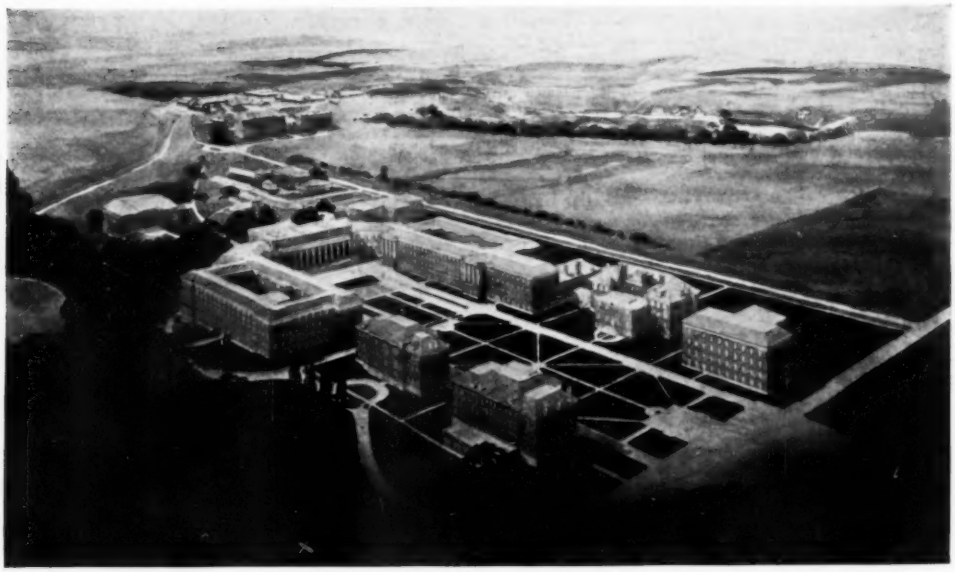


Figure 6

First Perspective Study of Proposed Development

NEW YORK STATE COLLEGE OF AGRICULTURE, CORNELL UNIVERSITY, ITHACA, NEW YORK

Lewis F. Pilcher, State Architect (1921)

were eliminated; the first-named not being on the main axis, is to be replaced by a larger building as part of an imposing continuous group enclosing the eastern end of the court. The revised plan of Figure 5 shows how it is proposed to alter and extend northward the two terminal wings of the Administration group, while the original scheme for enclosing the eastern end of the court is there seen to have been greatly expanded by adding on either side, i. e., to North and South, extensive wings enclosing each two smaller courts. These expansions provide two large halls in addition to a great increase of floor-area for laboratories, lecture rooms and collections. A still larger auditorium is provided at the extreme east end, taking the place of the former Farm Management building. A further change observable in Figure 5 is the elimination of the Heating Station and its replacement by the great building for Rural Engineering, which does not appear in the first plan, Figure 4. An examination of the two perspectives, Figures 6 and 7, shows the further architectural development of the project. To mask the intractable masses and discordant architecture of the rear elevation of Roberts Hall, a long curtain structure is seen connecting the north ends of the northward extensions of the Dairy wing and Stone Hall, providing an imposing monumental façade towards the court, to match the eastern half of the same side. On the north side the form and position of the Home Economics and Caldwell Hall buildings make a similar treatment impossible.

The execution of this project will provide an educational group hardly to be matched in architectural dignity and decorative effect by any other institution in the country. The nearest analogue is probably the Institute of Technology group at Cambridge, Mass. Aside from its greater size and cost, this latter group has the advantage of standing on a perfectly open, level site and of having been designed with no limitations or drawbacks of existing buildings to be worked into the scheme. In comparison with it, the Ithaca group is seen to lack the domi-

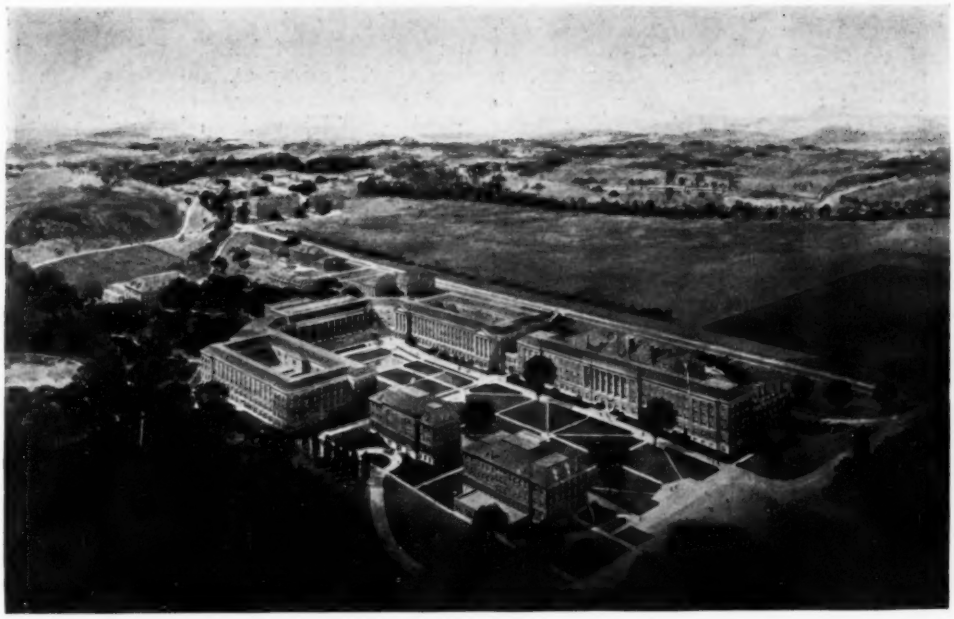


Figure 7

Approved Final Perspective Study of Proposed Development

NEW YORK STATE COLLEGE OF AGRICULTURE, CORNELL UNIVERSITY, ITHACA, NEW YORK

Lewis F. Pilcher, State Architect (1922)

nating and centralizing effect of any lofty mass like the Cambridge dome or the Columbia Library. But this is no reproach to the State Architect, who was not free to add any feature not clearly indicated by his practical program. The colonnade at the east end of the court, set upon a terrace some fifteen feet higher than the general level, forms a sufficiently accented feature to attract the eye and close the perspective of the court.

East of this main group all the miscellaneous existing buildings have been retained, with no effort at the impossible task of tying them to the main group. But the Forestry Building has been made the head of a secondary court outlined by roads and trees, and by a new flanking building for Agricultural Economics, this being balanced by a new wing on the Poultry Husbandry building (Figure 8) on the east side of the open court. To the northeast is to be erected a very large building for Rural Engineering, on the site of the old heating plant. This is on the axis of the main group, but the intervening irregularities of the topography and the forest growth make this fact of no real importance. For this reason Dr. Pilcher has refrained from any attempt to establish a vista between them or to connect them by a straight avenue over the irregular terrain.

Southeast of the groups already described are to be, according to the general plan of Figure 2, a number of new buildings, including a great new dairy building, adjoining the Animal Husbandry building and the University barns, while three other buildings are shown on the same plan south of the Students' Common, and directly opposite the Forestry group. At the present writing I am unable to name these buildings, or to say whether they are to be retained in the final development of the enterprise, or merely represent tentative sites and groupings for further expansion.

Accompanying these architectural developments there has been a restudy of

the landscape treatment of the grounds, comprising the straightening of the roads enclosing the Students' Commons, a transverse avenue near its east end to isolate from it the Animal Husbandry group, and a straightening of the avenue which divides this group from the University barns. Extensive tree-planting along these avenues will accentuate these diversions as well as embellish the grounds. Every architect and landscape-designer will appreciate the value of this new lay-out in giving an air of symmetry and system to what is at present in appearance a somewhat fortuitous scattering of these various groups.

Figure 8

Perspective of Completed Building for Dairy Industries

NEW YORK STATE COLLEGE OF AGRICULTURE, CORNELL UNIVERSITY, ITHACA, NEW YORK

Lewis F. Pilcher, State Architect (1922)

If this admirable solution of an extremely difficult problem—the complexity of which does not appear on paper as it does to anyone who has studied the situation personally on the spot as I was privileged to do in 1921—if this admirable solution shall be carried out to its final completion, with only such minor changes of detail as the architect may find necessary as the work progresses, the State College of Agriculture will possess an equipment of buildings and grounds unrivaled by any agricultural college in any other State or country. Such a result would have been impossible without the loyal coöperation of the Trustees and officers of the College and University, of the farmers, of the Legislature, and of an architect possessed of vision, of wide experience and of artistic imagination, at the head of an office organized on non-political lines, with the broad powers and the immunity from outside interference which are the happy conditions of the Department of Architecture of the State of New York.

The plans for the State Agricultural College are not only architecturally sound but also thoroughly practical, embodying and satisfying the elaborate utilitarian requirements of the "Statement" of 1918. Dr. Pilcher has the gift, not always found in architects, even in men of distinguished ability, of penetrating to the core of the client's wishes and requirements, putting himself at the client's point

of view, trying to see the problem as he sees it, and then seeking to meet those requirements to the utmost degree consistent with good architecture.

In the case of the charitable and correctional institutions of the State he considered that his real clients were the inmates, the wards of the State, although their needs were necessarily presented by the authorities of these institutions. In other words, when a prison or hospital program was furnished by the administrative body of officials or trustees of an institution, he penetrated behind and beyond these formal requirements, in his own thinking, to the feelings and needs of the unfortunate beings that it was his problem to house. He studied the whole science of such institutions, from the social and moral as well as the purely scientific point of view, and familiarized himself with the different theories of the various systems underlying similar institutions in other States, and thus approached his architectural problem with an unusually broad grasp of what it involved. This deep sympathy, this warm human appreciation of the moral and social problems involved, give a special value to the numerous reports and articles which have come from his pen. In these he appears as an accomplished architect who is also a large-hearted humanitarian, to whom the inmates of an institution are not mere "numbers" or "cases" but human beings with hearts and rights and emotions to be cared for sympathetically and if possible to be restored to normal moral and physical and mental health and to usefulness in the social order.

I have before me a pamphlet of Dr. Pilcher's on "The Psychiatric Institute Hospital Quarterly" of November, 1922. It is a carefully reasoned plea for the establishment in New York City of an Institute and Hospital for the reception, classification, treatment and education of that pitiable class of mental and moral defectives who, without such care and education, drift inevitably into insanity or crime. The medical, social and architectural aspects of the problem are discussed with great thoroughness, with deep sympathy, and with remarkable clarity of presentation. It is by such coöperation with the State's charitable and corrective institutions and interests that the Department of Architecture renders social services of the greatest value to the whole country. Dr. Pilcher's interest in prison reform, referred to in my previous article, his admirable work in the reconstruction of Sing Sing State's Prison, his plans for the prisons at Wingdale and Great Meadow, and special buildings at Auburn, Clinton, Dannemora and Matteawan, have given the State a most enviable record in prison architecture and made it and its architect known throughout the Republic.

The limits of this article forbid further discussion of the institutional work of the Department of Architecture under Dr. Pilcher's control, or of his skilful handling of extensive group-plans like that, for example, of the Marcy Hospital for 3,600 insane. The list of such institutions designed in the State Architect's office from 1913 to 1923 is a formidable one. I find on my list twenty-three hospitals for which one or more buildings have been designed, including three great group-plans for the insane, to accommodate each from 2,100 to 3,600 (Brooklyn, Creedmoor, Marcy) besides similar work by Dr. Pilcher for New Jersey and Ohio. I find in my list of State institutions designed in the Department of Architecture under his direction, ten armories and a Naval Station, eleven reformatories and prisons, five public buildings, thirteen central heating-plants, seven sewage-disposal plants, eight water-supply plants, five refrigeration plants, five laundries and fifteen schools—normal, agricultural, collegiate, deaf-mute, etc., besides many minor works and the State Agricultural College at Ithaca.

I cannot better close this paper than by reproducing the resolution passed by the Central New York Chapter of the American Institute of Architects three years ago:

"RESOLVED, That the Central New York Chapter of the American Institute of Architects, in its annual meeting assembled, desires to express to the Hon. Lewis F. Pilcher, State Architect of the

Figure 9

PERSPECTIVE OF THE CREEDMOOR HOSPITAL, LONG ISLAND, NEW YORK

Lewis F. Pilcher, State Architect (1922)

State of New York, its sincere and deep appreciation of the great service he has rendered the State of New York in the practice of his profession as a State official. We feel that the manner in which he has rendered this service has given the State of New York buildings of a quality superior to any similar work previously executed and based upon a cost resulting in great economies for the taxpayers. We believe that he has largely contributed by this service in establishing in a position of respect and reliability the profession of architecture."

Numero 147 Boulevard de la Reine Versailles

by

Harold Donaldson Eberlein & Leigh French, Jr. AIA

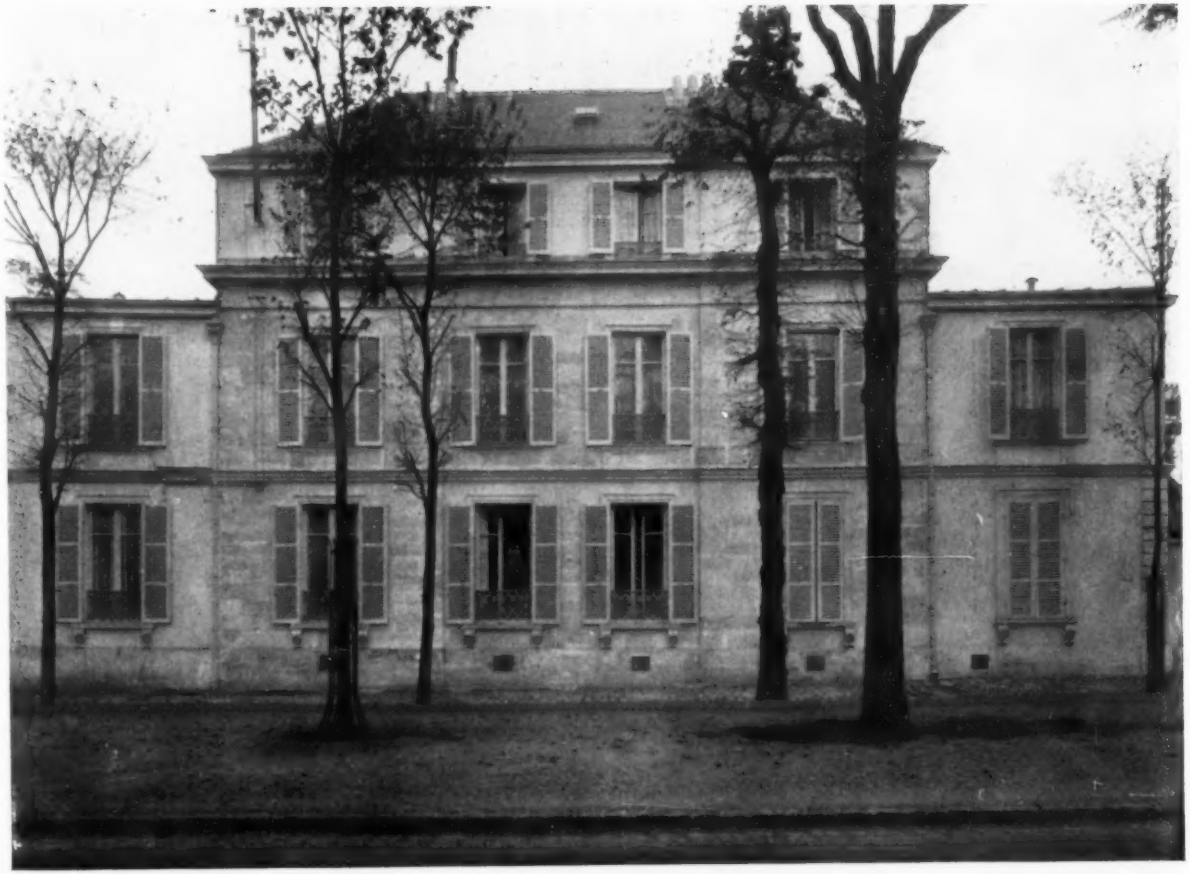
IN THESE DAYS when, at frequently recurrent intervals, we hear so much about garden cities, curiously enough, no one ever seems to think of mentioning Versailles in that connection. Yet, Versailles is most assuredly a garden city, if ever there was one. Furthermore, it is an admirable one, and efficiently devised, for there is scarcely a house within the city precincts that has not its own garden, usually large enough to make it a prized possession and oftentimes very extensive. In this respect Versailles is unique among the cities of France.

This aspect of the city's character has, perhaps, too often escaped notice. It is not always patent to the stranger because the French people choose to possess and enjoy their gardens in reasonable and decent privacy and, therefore, wall them round about, instead of turning the gardens inside out, so to speak, and spreading them open to the inquisitive gaze of every chance passer-by.

The local habit of giving each house its own garden has made it possible to design a city house with four aspects instead of one, and to create a well-considered and fully organized composition that will please the eye from whatever point it is viewed, whether *all* the points of view be the common property of the general public or not. This principle ought surely to please those nurtured on Ruskinian precepts, even though it be applied to a structure of purely Classical provenance.

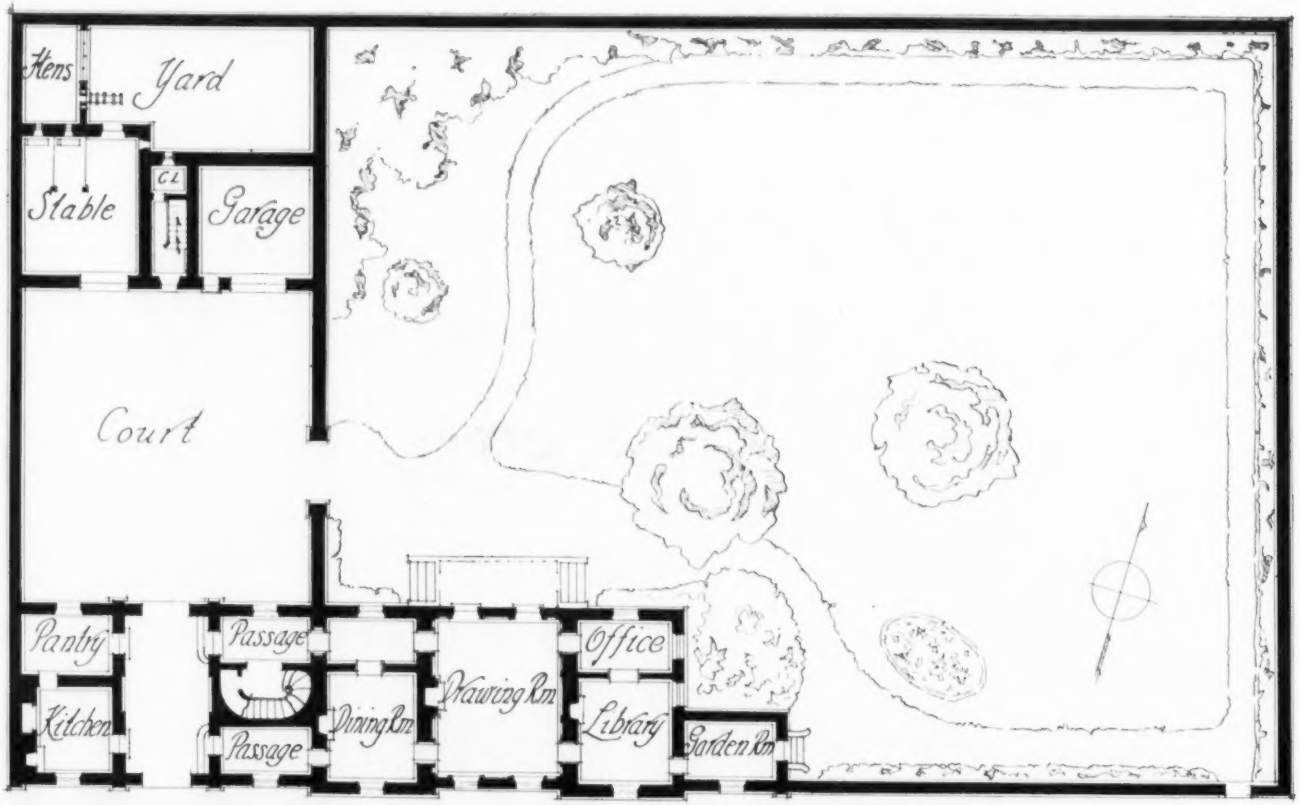
Numero 147, Boulevard de la Reine, is an excellent example of this fully organized composition. It was built in the early part of the nineteenth century before the restrained ideals of the Directoire period had succumbed to the vulgarity of a later era, and it was constructed of materials brought from a demolished country house that had once belonged to Madame de Montespan. The walls are built of carefully dressed ashlar of the native cream-colored limestone, and the woodwork is painted a light grey, almost white.

Even when viewed in the most cursory manner, the poise and refinement of the composition compel attention, but whoever takes time to make a careful inspection is richly rewarded, for then are disclosed all the subtleties that bear eloquent witness to the taste and skill of the architect responsible for this performance of elaborate simplicity. Not a little diversity of detail has been incorporated without at all detracting from the aspect of strength and studied restraint. As the illustrations show all these items it is unnecessary to enumerate them. The plan is characteristically Gallic in its arrangement. This may or may not appeal to the reader. At any rate, it is a point deserving study.



South Front

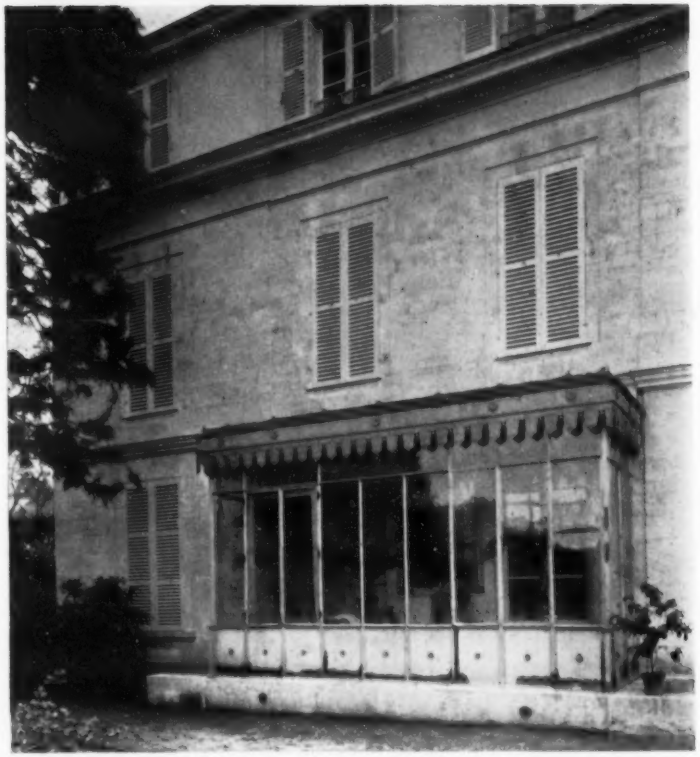
NO. 147, BOULEVARD DE LA REINE, VERSAILLES



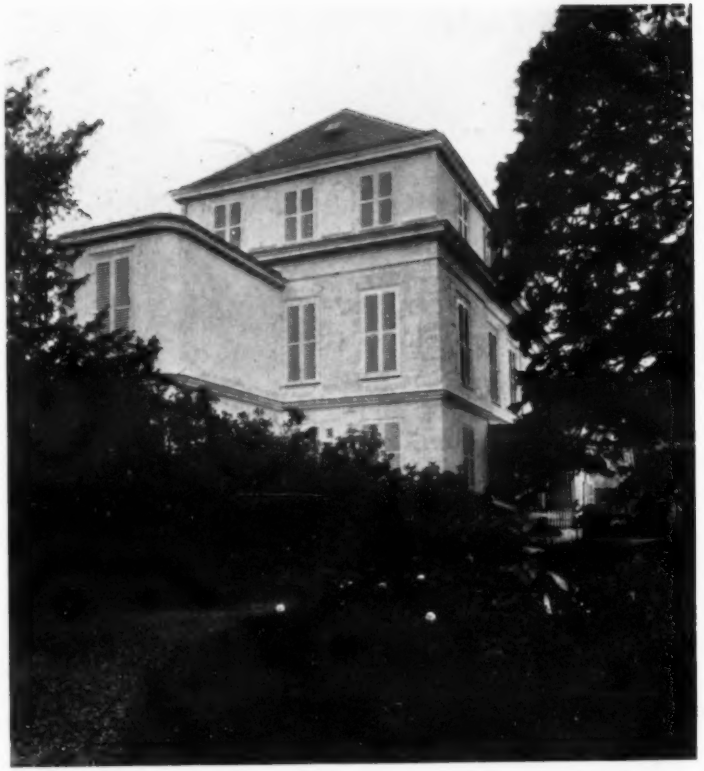
Plan of House and Grounds
NO. 147, BOULEVARD DE LA REINE, VERSAILLES

Street Front and Entrance
NO. 147, BOULEVARD DE LA REINE, VERSAILLES

South and East Fronts
NO. 147, BOULEVARD DE LA REINE, VERSAILLES

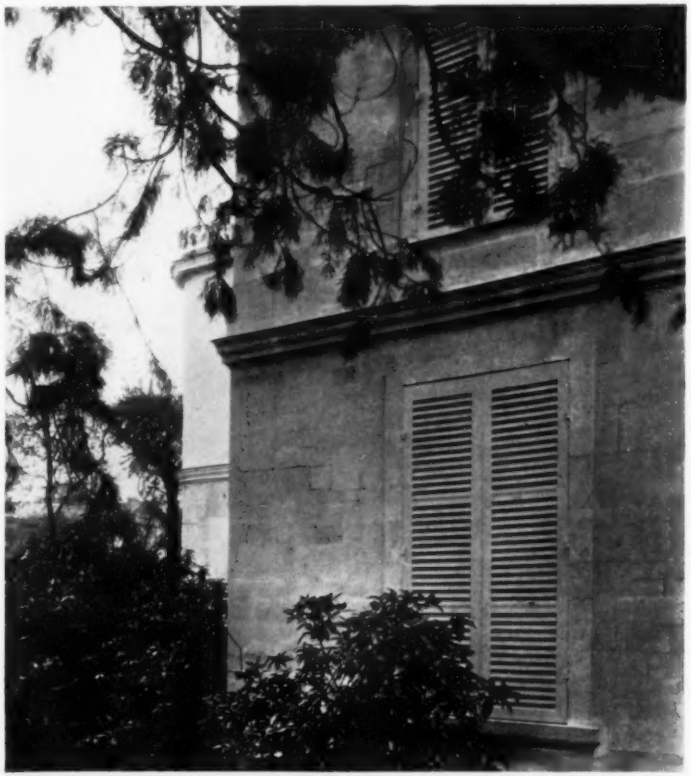


Garden Front



East End

NO. 147, BOULEVARD DE LA REINE, VERSAILLES



Window Detail

Courtyard

NO. 147, BOULEVARD DE LA REINE, VERSAILLES

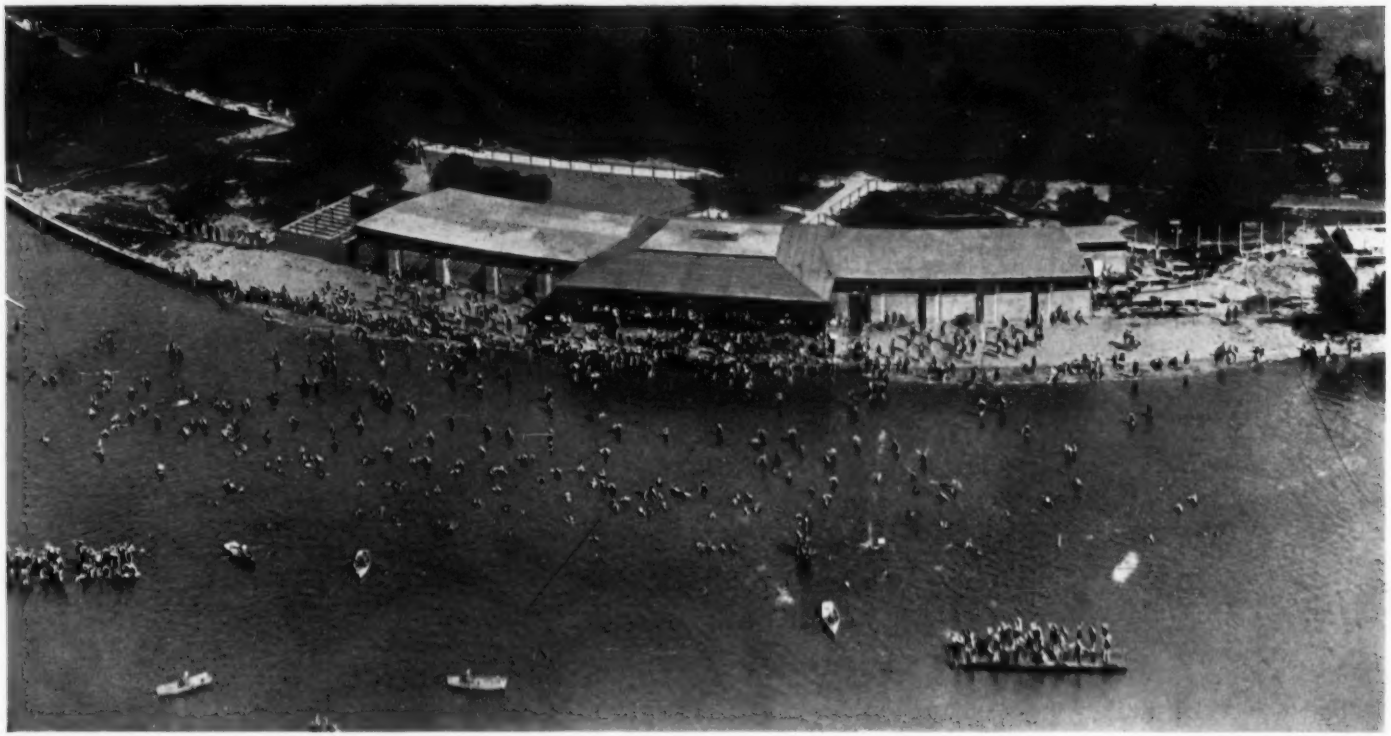
Garden Front

Entrance

NO. 147, BOULEVARD DE LA REINE, VERSAILLES

South Front

NO. 147, BOULEVARD DE LA REINE, VERSAILLES



POTOMAC PARK BATH HOUSE, WASHINGTON, D. C.

Horace W. Peaslee, Architect

The central pavilion provides space for the management, refreshment stands and a covered bleacher for spectators. Lockers are provided in the sheds at each side.

LAKE NOKOMIS BATH HOUSE, MINNEAPOLIS, MINN.

RECENT PARK BATH HOUSE TYPES

By George Burnap

AS A MUNICIPAL INSTITUTION, the bath house must observe a double purpose—recreation and public health. In careless communities, the first incentive takes precedence over the second; the happiness of the individual glosses over the menace to general health which bath houses for "individual freedom" impose. In advanced communities, regulations and restrictions are recognized as essential to bath house design if the general welfare is to be preserved.

Preliminary study of bath house requirements immediately reveals to the architect a set of conditions immeasurably more exacting than those outlined by the park commissioners, and frequently in direct conflict with their ideas. In a majority of cases, the cheapness with which a bath house can be built is of prime importance and the initial requirements are little more than those of a permanent tent. But notwithstanding such easy conditions to meet, the sketch preliminary plans should comprehend the provisions which communities of more experience have found essential. Such plans will serve as an educational basis. There need follow no economic strife if it is clearly pointed out, for example, that the bath house with open court wings effects a roofing economy more than sufficient to offset the expense of unexpected and undesired sanitary provision. Also, that modern bath house design favors an elastic unit which permits a moderate expenditure at the offset and expansion as the demand arises for additional accommodations. The aim in this respect is to provide a central shelter adequate to house the management of greatly extended wings at a future time.

The general requirements of bath house design can be observed by examination of some recent examples. The Lake Nokomis bath house at Minneapolis is typical of the several establishments in the parks of that progressive city. The following description of the management and operation of the Minneapolis bath houses furnished by Theodore Wirth, superintendent of the general park system, may be accepted as a carefully studied programme common to up-to-date communities and will be seen to predetermine the general plan of a modern bath house.

"Patrons entering a bath house must secure a ticket from the cashier's office in the central lobby, covering the charge for their locker and whatever other sundry supplies they wish in the way of suits, towels, caps, hose, water wings, etc. They then pass into the suit room—the men's department being to the right and the women's department to the left of the main lobby. Entrances to the locker

The women's locker court has batteries of lockers in double tiers with dressing rooms between, one dressing room to five lockers. A separate court for small children is provided in connection with the women's department.

The bath house has three departments: men, women and boys. The boys' locker court has no dressing rooms, but batteries of lockers with dressing benches between. The men's locker court has a few dressing rooms; the majority utilizing the benches placed between the lockers.

LAKE NOKOMIS BATH HOUSE, MINNEAPOLIS, MINN.

Designed by Park Engineering Department, A. C. Godware, Chief Engineer

THE U. S. FREE BATH HOUSE, HOT SPRINGS NATIONAL PARK, ARKANSAS
Mann & Stern, Architects

courts are through a passage way along the suit room supply counter. Here the attendant in charge takes the ticket and furnishes the patron with whatever the ticket calls for. To the rear of the suit room is the 'valuable room,' and beyond this the locker court.

"The exit to the beach is through a continuously running shower and a shallow turnstile, turning in one direction only, and the attendant at the exit collects the patron's key and other bathing supplies belonging to the establishment.

"A hospital room is provided completely equipped for rendering first aid and for respiration work.

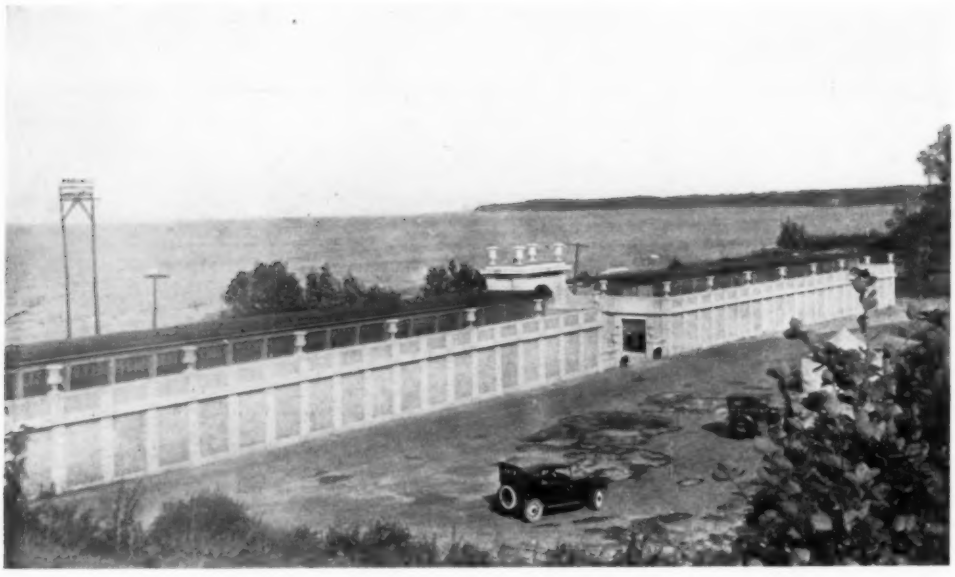
"The Park Board operates a laundry at which all suits and towels are thoroughly

THE U. S. FREE BATH HOUSE, HOT SPRINGS NATIONAL PARK, ARKANSAS
Mann & Stern, Architects

pool four inches deep. The purpose of the arrangement is to prevent others than bathers from entering the locker room by means of this exit and it also serves to wash the sand off the bather's feet when coming in from the beach.

"When leaving the bath house the patron has one means of exit through a laundered and sterilized after each using.

A type of bath house radically different from the open beach variety in municipal parks is that to be found at Hot Springs National Park, Arkansas. The forty-six radio-active hot springs, grouped about the base of Hot Springs Mountain, are all owned and controlled by the gov-



BATHING ESTABLISHMENT AT DURAND EASTMAN PARK, ROCHESTER
Gordon & Kaelbet, Architects

A decorative screen wall and archway entrance to the beach mask the bath house facilities from the park side.

ernment and it is possible, therefore, to designate the kind of building, equipment, service and business administration that must be provided before the waters will be supplied.

The arrangement of the houses naturally depends on the class of business they cater to and most of them consist of a lobby with office and check room, dressing rooms, bath halls, pack rooms and cooling rooms. The more luxurious include massage rooms, electrical apparatus, special hydro-therapeutic apparatus, gymnasiums, writing rooms, game and social rooms. The buildings are planned with the idea that after a patron passes through the office and makes necessary arrangements at the desk, he goes to a dressing compartment or private rest room, changes clothes, goes to the bath hall, thence to the pack room, thence to the cooling rooms and back to the dressing rooms. By orderly circulation through the building a large number of patrons can be taken care of at one time without confusion.

Bath house buildings in municipal and national parks obviously should consider their environment, neither competing with the park scene by over-ornateness nor interrupting the landscape by rude silhouette or aggressive mass. In plan, the main effort of the architect will be to design a bath house that cannot be conducted on a low plane but which, by the assignment and arrangement of parts, will enforce management of a sort to protect the health of a community as well as to provide pleasure for the individual. The appearance of the building, however attractive and harmonious with the park environment, will not save the architect from censure if he does not inform himself thoroughly in the very specific requirements of this type of park structure. Although the park authorities may not welcome the idea of being "led" by the architect, they have a nice habit of inquiring who drew the plans of certain buildings observed in successful operation in other park systems and it frequently follows that an architect finds himself "leading" in a field where he had expected but a single commission.

ARCHITECTURE

The Journal of the Society of Architects, London: Nov., 1922-Feb., 1923

It is a genuine pleasure to welcome the Journal of the Society of Architects in its new form and with a title "that can be pronounced without a respiratory pause in the middle," as the editor observes in the first paragraph of his monthly comment. He then goes on to say that "size, scope and presentation have, as the most superficial inspection will show, been modified to no small extent." These changes are all to the good. Continuing, the editorial note informs us that "important as the external changes will be found, they are not (or will not be) comparable to those that affect the scope of the new journal. The phrase 'will not be' is added intentionally, for it is impossible in the first number to give more than a suggestion of the final nature of a periodical: a suggestion which we shall try to develop somewhat in these notes. It remains to be seen, after a twelvemonth or so has elapsed, whether our intentions shall be expressed in the perspective view that will then be obtained."

Although doubtless actuated by becoming modesty, it was quite unnecessary for the editor to qualify his promises, as subsequent issues of Architecture have proved by their event. Indeed, the initial issue contains matter decidedly worth while. There is an important and well illustrated article on the Olympic Stadium, by Robert Atkinson, F. R. I. B. A., *à propos* of the designs submitted in the Society's Victory Scholarship Competition, in October, 1922. There is also a notice setting forth the origin and aims of the Architecture Club, an organization whose inception is significant and suggestive of what might be undertaken on this side of the water. "The Club originated," says the notice, "in discussions which took place last year (1921) between certain architects and men of letters interested in architecture. It was generally agreed that there was insufficient contact between architects and workers in other arts; that the Press devoted far too little attention to architecture and especially to informed criticism of it; that the general public, though in a considerable degree interested in buildings, was given too little guidance and did not even know the names of the most eminent architects; and that steps should be taken to remedy these evils.

"A series of dinners followed, which some twenty or thirty persons attended. It was decided that a club should be founded, composed in part of architects, in part of authors and journalists, and in part of interested laymen, which should do its best to promote the interests of the best modern architecture." This club, it is further pointed out, has already accomplished signal results in arousing in the general public an intelligent interest in architecture.

The December number includes a contribution by Hilaire Belloc, entitled "The Return of a Norm." Whether one agrees with Mr. Belloc or not in his forecast of the future of architecture, his views always command respect and provoke fruitful discussion. There is, likewise, a very just appraisal of the work of the Brothers Adam in the shape of an exhaustive review of "The Architecture of Robert and James Adam," by Arthur T. Bolton, F. S. A., F. R. I. B. A., Curator of the Soane Museum. In the January issue "The Italian Garden" is agreeably treated by Georges Gromort, followed by a stimulating article on "The Architect and the Theatre," by St. John Ervine, while an iconoclastic letter from Bernard Shaw is calculated to stir up either wrath or amusement.

The bi-centenary of Sir Christopher Wren's death falling in February, the greater portion of the February issue is naturally devoted to Wren or to events connected with

the bi-centenary celebration. Especially deserving of notice are the drawings by Frank Brangwyn and others, reproduced in halftone. Professor Reilly also contributes a careful discussion of "Wren as a Baroque Architect," which gives timely food for thought to those who commonly inveigh against Baroque manifestations.

"Architecture" in its new form seems already to have hewn out a distinct course and a highly individual manner of presentation which will assure it a valued place amongst architectural publications and make its monthly appearance an event to be awaited with pleasant expectation.

HAROLD DONALDSON EBERLEIN.

ARCHITECTURAL SCULPTURE

By Paul Jennewein

The most recent work of Paul Jennewein is architecturally very significant; it is a frieze decorated with figures of young children, which adorns the lobby of one of Benjamin W. Morris's new buildings, the Lincoln National Insurance Company, at Fort Wayne, Ind. This frieze typifies, to a remarkable degree, those basic requirements essential to the complete incorporation of sculpture in an architectural scheme; and reflects the sculptor's clear perception of the precise relationship which should exist between the two arts. Two points of view or sympathies which are rarely completely unified in the modern work of art, appear to have guided its stylistic evolution: we find evidence of an intensive study of natural forms, combined with that decorative feeling which characterizes the most formal type of sculptural expression. This is the outcome of two absorbing pursuits. Mr. Jennewein's diversion and joy is to model his shapely children at every stage of their growth, with the result that he has acquired a profound knowledge of the beauty that lies in immature human form. He models them with an almost feverish fear lest some subtlety of form in limb, extremity, or torso, may be overlooked, or that he fail to grasp a poise which suggests the hazardous equilibrium of early childhood. This diversion has been indulged simultaneously with diligent research into the Greek manner of the late VI and early V centuries, B. C., to which he is attracted by his ardent enthusiasm for its purely decorative quality. In considering the stylistic elements of this interesting piece of sculpture, we are inevitably reminded of the exquisite bambinos of the Renaissance—though there is not the slightest physical resemblance. In both, absolute truth to nature is linked with an essentially stylistic form of interpretation. There is an intense pleasure derivable from the contemplation of purely decorative work in which the artist has deliberately attempted to set aside his stylistic sympathies, in the wholehearted effort to attain a truthful record of the beauties of human form; and to find that despite the surrender of self, his sympathies have unconsciously controlled his vision. Individuality in expression of this character is the result of so sincere an effort that it compels admiration and carries conviction with its spontaneity. This work of Paul Jennewein's places him in the foremost rank of modern architectural sculptors.

Particular interest is attached to this frieze in that it defines a definite trend in modernity. We are shown the vital part that life plays in a historic type of treatment which threatened to become hackneyed, as a result of mediocre exponents mistaking mannerisms for feeling. For the architect it is extremely important that he analyze the characteristics of such work, for it possesses those qualities which contribute beauty to architectural effect without competitive interest. To find the ideal relation of sculpture to architecture, we must turn to the Greek temple decorations of the sixth and fifth centuries B. C. In the friezes, metopes and pediment groups a distinct beauty results from a deliberate subordination of sculptural interest, without any depreciation thereof actually resulting. It was considered vital by the Greeks, that any sculptural decoration forming part of a

Frieze Over Elevators
LINCOLN NATIONAL INSURANCE CO., FORT WAYNE, IND.
Benjamin W. Morris, Architect
Paul Jennewein, Sculptor

structure should have a definite and relative effect-value; this was stated in terms of motif and field, as the colored background upon which reliefs and detached sculpture were silhouetted, determining the degree to which the decoration counted. There is little doubt that the perfection in balance which characterizes Greek figure composition was due in great measure to the necessity of considering grouping in silhouette upon a colored field. In this frieze of Jennewein's, pronounced signs are discernible to prove that his composition is benefiting by the attention recently given to the polychrome treatment of Greek sculpture.

The decoration of the vestibule of the Lincoln Insurance building presented a difficult and unusual problem, owing to the diversity in length of the spaces to be filled. This will readily be appreciated if the small layout be examined. Panels are inserted in a plain limestone wall over the elevator doors —a solution admirable in its simplicity and novelty. The height of the relief is perfectly adjusted to the proportion of space which surrounds each figure; the field being relieved with simple lettering carved in low relief, bearing the legends and words, "Abundantia Gloria," "Abundantia Fortuna," "Amor," "Veritas," and "Vanitas."

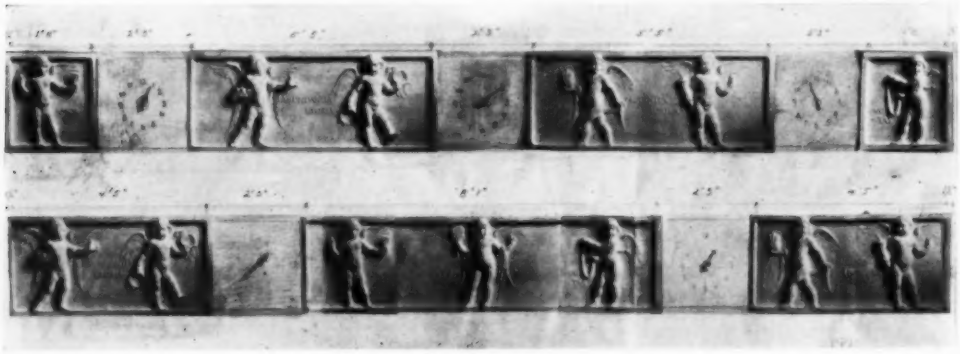
In architectural sculpture there are hopeful signs that the modern Gallic influence is about to receive the *coup de grace*. This influence,

Frieze Over Elevators
LINCOLN NATIONAL INSURANCE CO., FORT WAYNE, IND.
Benjamin W. Morris, Architect
Paul Jennewein, Sculptor

Detail of Frieze
LINCOLN NATIONAL INSURANCE CO., FORT WAYNE, IND.
Benjamin W. Morris, Architect
Paul Jennewein, Sculptor

so far paramount, and possessing great inspirational value in the individual piece, has no application to architectural decoration, because its effort is mainly concentrated upon producing qualities of tone through the play of light upon form, rather than upon the balance of form in a given space, as is essential in an architectural feature. It is not implied that in bas-relief the French have ignored the sense of space surrounding the subject; on the contrary they considered it as much as the Greeks, but with the difference that the former regarded the *depth* in space, whereas the latter were mainly conscious of its *established boundaries.* In the French treatment of relief their sentiment causes them to unify field and subject in the decorative idea; in the Greek feeling these two elements in composition were considered as distinct and inseparable decorative factors in effect. The original genius and great prestige of Rodin has exerted an influence in this country distinctly detrimental to the freedom of the true spirit in architectural sculpture. The majority of sculptors will doubtless regard such a statement as rank blasphemy. Fortunately, however, the growing sympathy of the American sculptor for the pre-Periclean mode of expression is rapidly neutralizing the prevailing Gallic influence.

When sculpture is used for architectural decoration it must possess what might be crudely termed *pattern value*; with the increase in opportunity for sculpture in public buildings this factor in design should be



cultivated with the greatest assiduity, if sculpture is to be associated with fitting dignity, and architecture to be truly beautified. We regard the sculptor's capacity to arrange form within the given space, as an extremely important consideration for the architect to judge, when making his choice of the man most capable of contributing this extraneous interest to an architectural scheme. Few possess this faculty to a greater extent than Paul Jennewein, and the lack of conventionality which he shows in the work which we have just discussed, causes us to look forward with the greatest interest to his future work in architectural sculpture.

LEON V. SOLON.

Artistic Sign Posts for the City of New Rochelle, N. Y.

New Rochelle, N. Y., where through a zoning ordinance the billboard sign has been banished from the residential sections, has just erected at seven of its ten arteries of traffic as many approach signs which are undoubtedly the finest of their kind in America. They are attracting nation-wide attention and the idea will be carried out by other municipalities. These approach signs were designed by famous artists, illustrators and cartoonists, all residents of New Rochelle. A number of the most interesting designs are illustrated in the Portfolio of this issue of the Record.

Two years ago the idea, conceived by the New Rochelle Chamber of Commerce, enlisted the enthusiasm and coöperation of the New Rochelle Art Association. Each artist was privileged to choose his own subject and as New Rochelle is rich in historical themes naturally many of the signs are representative of the Huguenot and Revolutionary days. Mayor Harry Scott headed the Chamber's Committee, while Frederick Dana Marsh, the artist, was chairman of the Art Association Committee.

George T. Tobin, the artist, contributed a silhouette depicting the landing of the Huguenots at New Rochelle in 1688, while Edward Penfield, the illustrator, chose as his theme the stage coach. At a point where the trail of the Siwanoy tribe crossed what is now the Post Road, Remington Schuyler, perhaps the best known renderer of Indian life, has his Siwanoys returning with a deer from the hunt. James R. Marsh's contribution is the Port of La Rochelle. That of his father, Fred Dana Marsh, is a model of the typical Huguenot ship in full rig, which, like the majority, is done in rich colors. Ralph T. Robertson, chief designer for W. & J. Sloane, of New York, uses the home appeal in his artistically proportioned sign, Clare Briggs, the New York Tribune's cartoonist, has worked in his famous "Skin-nay," who proclaims that New Rochelle is the place to visit "when a feller needs a friend." The theme of both Coles Phillips and Norman Rockwell is of the Revolutionary period when Washington's troops encamped in this section of Westchester county. Laurence Loeb pictures New Rochelle as the ideal residential community far from the manufacturing plant. These last three signs are not as yet placed in position.

The signs were executed in New York by James R. Marsh, designer and metal worker, who also contributed one of the designs. All the metal was forged by hand, which adds much to the character of the work and makes it unique from the point of view of craftmanship.

The Second Pan American Congress of Architects, Santiago, Chile, September 10-20, 1923

The Second Pan American Congress of Architects will meet at Santiago, Chile, from September 10 to 20 of this year. The first Congress took place at Montevideo, Uruguay. Delegates from all of the American Republics will be present at the Santiago meeting. It is to be held under the auspices of the government of Chile, and the program is most comprehensive. The Congress will meet in September, which is spring in Latin America and a most attractive season. The steamer companies are quoting a round trip ticket from New York to New York—via the Panama Canal, west coast, Trans-Andean Railway and the east coast lines—for the sum of $630. This entire trip could be made in sixty days, permitting of a stop at Lima, Peru, ten days in Santiago, an equal time in Buenos Aires, Argentine, and stops in Montevideo, Uruguay, and Santos and Rio de Janeiro, Brazil.

The competition for the new Municipal Palace to be erected in Montevideo, Uruguay, brought forth ninety-two requests for detailed information, photographs, etc. While many of the applicants for the data have since advised us that the rules governing the contest are different from those in vogue in this country, and that it will be most inconvenient for American architects to actively compete, some fifteen or twenty seem to be engaged in the preparation of plans for submission.

An Impression Of the School of Fine Arts, Fontainebleau

The Fontainebleau School of Fine Arts, conducted by the French Government for American students, and assisted financially by friends of the movement in New York, has been going now for two weeks, and never has any group of teachers given so generously of their time and imparted so much of inspiration and enthusiasm as Director Carlu and his wife, M. Bray, M. Alaux, for the architects, M. Gourget for the painters, M. Saillens in history, M. Delamarre in French and the splendid musical faculty. Courtesy and a desire to be of service are shown by every officer and employee in the Palace, including the staff in the dining room and the guards.

The Palace faces the magnificent Carp Pond, the architectural wing is on one side, the music wing on the other, and the *Galerie des Fleures*, where the meals are served, connects the two wings.

Painting, architectural and music students fraternize, and on the frequent tours, for which large auto buses are supplied, the students do collaborative work, the architects assisting the painters and *vice versa*. Since noon today, (July 6,) a sixty mile tour was made to Nemours, Souffe, Chateau Landon and Ferrieres en Gatinais, coming back to the Palace at 7 for dinner.

This was the third time the trip was made this week. There are many shorter trips, and the students, who have all rented wheels, ride each day to nearby places either for study or for recreation.

Superb musical concerts are given in the Palace; there are frequent entertainments by the townspeople and on the opening day of the school, the mayor of Fontainebleau, M. Fragnaud, presided at a reception in honor of the students.

The students realize to the full the very rare opportunity extended to them in being allowed to work in the inspirational environment of the Palace and under an exceptional corps of teachers. America will, in turn, feel the influence of the labors of these fortunate students. SAMUEL E. GORDON.

Fontainebleau, France.

Le Diplome d'Urbanisme, the highest degree in the profession of city planning, has recently been conferred upon Mr. George Burnap, one of our contributing editors, by l'Ecole des Hautes Etutes Urbaines, a graduate school of the University of Paris. The courses at this school are conducted by professors from all of the large universities of France.

Mr. Burnap was for several years government landscape architect of public buildings and grounds, during which time he redesigned many of the parks of Washington. He has prepared plans for future development of various parks, hospital grounds, school areas, etc. in and around Washington.

Mr. Burnap is the author of several books on parks and allied subjects.

Indiana Limestone

The Aristocrat of Building Materials

INDIANA LIMESTONE QUARRYMEN'S ASSOCIATION

Bedford, Indiana

August 10, 1923.

MR. M. A. MIKKELSEN, Editor,

THE ARCHITECTURAL RECORD,

119 West 40th Street, New York City.

Dear Mr. Mikkelsen:

In the August issue of the ARCHITECTURAL RECORD you feature an article on the Tabernacle Presbyterian Church at Indianapolis, Indiana, in which it is stated "the exterior, dignified and churchly, is of smooth faced rubble, color of which ranges from warm gray to tan."

We desire to advise this building is an Indiana limestone structure in which the trim is of the regular cut Indiana limestone and the field of the walls of rough sawed-four-side quarry-run stock, laid up in the form of a random ashlar. When the term "rubble" is employed, it implies the class of work that is built of ledge or field stone, and not a sawed facing.

We consider the Tabernacle Church at Indianapolis an outstanding example of that form of construction. It is, therefore, with distinct regret that we note the incorrect designation of the material used in the exterior of this Church and the failure to give your readers any enlightenment as to the kind of material used.

Yours very truly,

INDIANA LIMESTONE QUARRYMEN'S ASS'N.

(Signed) H. S. Brightly,

HSB/cm Service Engineer.